

**DEPARTMENT OF THE AIR FORCE (DAF)
SMALL BUSINESS INNOVATION RESEARCH (SBIR)
X21.2 COMMERCIAL SOLUTIONS OPENING (CSO)
AF212-CSO1 PHASE II PROPOSAL INSTRUCTIONS
AMENDMENT 3
22 April 2022**

The subject solicitation is hereby amended as follows:

1. Section II.M.(1) now reads:

Firms must be registered in DSIP to prepare and submit proposals. Firms shall also register in the System for Award Management (SAM), <https://www.sam.gov>, **within 60 days of solicitation close in order to be eligible for proposal award**. Follow instructions therein to obtain a Commercial and Government Entity (CAGE) code and Unique Entity Identifier (UEI) number. Firms shall also verify “Purpose of Registration” is set to “I want to be able to bid on federal contracts or other procurement opportunities. I also want to be able to apply for grants, loans, and other financial assistance programs”, NOT “I only want to apply for federal assistance opportunities like grants, loans, and other financial assistance programs.” Firms registered to compete for federal assistance opportunities only at the time of proposal submission will not be considered for award. Addresses must be consistent between the proposal and SAM at award. Previously registered firms are advised to access SAM to ensure all company data is current before proposal submission.

In addition to the standard Federal and DoD procurement certifications, the SBA SBIR/STTR Policy Directive requires certain information be collected from firms at award and during the award life cycle. Each firm must provide this information with the proposal (Attachment 3), prior to receiving 50% of the total award amount, and prior to final payment.

It is strongly encouraged that proposers register in SAM, <https://sam.gov>, by the Close date of this CSO, or verify their registrations are still active and will not expire within 60 days of CSO Close.

2. All other solicitation provisions remain unchanged as a result of this amendment.

**DEPARTMENT OF THE AIR FORCE (DAF)
SMALL BUSINESS INNOVATION RESEARCH (SBIR)
X21.2 COMMERCIAL SOLUTIONS OPENING (CSO)
AF212-CSO1 PHASE II PROPOSAL INSTRUCTIONS
AMENDMENT 2
7 April 2022**

The subject solicitation is hereby modified as follows:

- A. Table 1: Points of Contact is now updated to include the email subject line of **“X21.2 Solicitation Inquiry”**.
- B. This amendment incorporates the following Questions & Answers in to this solicitation.

Question	Answer
During Phase I, we were told that the period of performance was changing to 18 months (15-month period of performance +3 months reporting). However, in the RFP it still states a 15-month period of performance. I just want to verify that this RFP is sticking with the 15-month PoP	The Period of Performance is 15 months.
Do you know if the title page counts toward the 15-page max for 21.2/B Phase II proposals?	The cover page does not count toward the overall page total.
In the final solicitation Section IV. SELECTION METHOD AND REVIEW CRITERIA, paragraph C states that "Where technical evaluations are essentially equal in merit, cost and/or price will be considered in determining the successful offeror(s)." but Paragraph D. states that proposals will be prioritized based on importance to agency programs and funded starting with the highest priority. Can proposals be prioritized and still be equal in merit?	All proposals are evaluated IAW the stated evaluation criteria. Proposals are then prioritized based on importance to agency programs. Under the AFWERX Open Topic, importance to agency program correlates to the company's overall technical evaluation score. Where technical evaluations are essentially equal in merit, and thus equal in importance to agency programs, cost and/or price will be considered in determining the successful offeror.

Do I need to submit a signed TPOC designation later with my proposal now? Or do we do this once we receive notification if we're selected and funded?	The TPOC designation letter may be submitted with the proposal. Successful submission is a prerequisite for award, but firms will not be disqualified for not including this letter as part of their proposal packages.
The Ph-II submission instruct us to select AFWERX as the component to which the proposal is submitted. The DSIP website doesn't have that option in the scroll down menu for the components. Is that going to be fixed?	AF is the component, and then AFWERX is the command.
Is there a way to add AFWERX to the list of components that offerors can choose from? This is specifically in regarding to the Phase II proposals for AF X21.2 and AF X21.B.	AF is the component, and then AFWERX is the command.

C. Section IV.C is revised to read:

All evaluation criteria other than cost or price, when combined, are significantly more important than cost or price. Where technical evaluations are essentially equal in merit, cost and/or price will be considered in determining the successful offeror(s). All proposals are evaluated IAW the stated evaluation criteria. Proposals are then prioritized based on importance to agency programs. Under the AFWERX Open Topic, importance to agency program correlates to the company's overall technical evaluation score. Where technical evaluations are essentially equal in merit, and thus equal in importance to agency programs, cost and/or price will be considered in determining the successful offeror.

D. All other portions of the solicitation remain unchanged as a result of this Amendment.

**DEPARTMENT OF THE AIR FORCE (DAF)
SMALL BUSINESS INNOVATION RESEARCH (SBIR)
X21.2 COMMERCIAL SOLUTIONS OPENING (CSO)
AF212-CSO1 PHASE II PROPOSAL INSTRUCTIONS
AMENDMENT 1**

The subject solicitation is hereby modified as follows:

- A. The second line on page 48 is edited to read “SBIR/STTR funds will not exceed \$750,000.00.”

The following “Questions & Answers” are hereby incorporated into this solicitation.

Questions & Answers

Question	Answer
1. I'm writing with a question about a discrepancy in the final RFP document released on Thursday 03/24/22 (X21.2_SBIR_PhaseII_Instructions_24March2022 (2)) Can you please confirm the total dollar amount of this opportunity? I see on page 4 of the document, Table 2 lists the Maximum dollar value as \$750,000, while on page 46, the template for Attachment 1a says "SBIR/STTR funds will not exceed \$1.25M." Should we design the task values in our Schedule of Milestones to the \$750,000 amount, or the \$1.25M?	The total amount of SBIR funding will be \$750,000.00 as indicated on p. 4. The amount on 1a is a typographical error. Design milestones to include all anticipated funding from both SBIR/STTR and other funding sources.
2. Would you please post the RFP in Word format? Especially for the sake of the MOU and getting formatting correct.	The Government will not be posting the RFP in Word format.
3. I would like to confirm qualifications for the End-User and Customer. We were told by AFWERX that the JAIC is an acceptable End-User/Customer entity, so are actively pursuing this avenue and have a verbal agreement. I do want to confirm: Does the signatory for the End-User/Customer at JAIC need to be a DAF employee?	Both the Customer and End-User must be DAF personnel.
4. If the End-User/Customer signatures are NOT required to be a DAF employee, is their DAF employment status a factor in reviewer evaluation of submitted proposals?	See above.
5. Should attachment 1 and 2 (Schedule of Milestones and Non-Proprietary Work Plan) be attached in one file with the signed MOU?	They do not need to be but offerors may if they choose.
6. Attachment 3, TPOC Designation Letter, it says do not include with signed MOU, should it be included separately (where)?	Volume 5
7. Are attachment 4 and 5 read only?	Attachment 4 needs to be completed, as it is a questionnaire. Attachment 5 is intended to be Read Only and to put offerors on notice of applicable solicitation provisions.

**DEPARTMENT OF THE AIR FORCE (DAF)
SMALL BUSINESS INNOVATION RESEARCH (SBIR)
X21.2 COMMERCIAL SOLUTIONS OPENING (CSO)
AF212-CSO1 PHASE II PROPOSAL INSTRUCTIONS
24 March 2022**

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I. INTRODUCTION

- A.** All Phase II proposals must be prepared and submitted through the Department of Defense SBIR/STTR Innovation Portal (DSIP), <https://www.dodsbirsttr.mil/>. Ensure the proposal email address is accurate. DAF is not responsible for missed notifications due to firms changing mailing address/email address/company contacts after submission without notifying the DAF. Addresses must be consistent between the proposal and System for Award Management (SAM) at award. The deadline for AF212-CSO1 Phase II proposal submission is **25 April 2022, no later than 12:00 p.m. Eastern Time**. Questions about this solicitation will be accepted until 20 April 2022 at 12:00 p.m. Eastern Time.
- B.** The DAF reserves the right to award all, part, or none of the proposals received. The Federal Government is not responsible for any monies expended by the applicant before award.
- C.** The following will not be considered:
1. Proposals submitted after the stated deadline.
 2. Incomplete submissions due to system issues encountered during upload.
 3. Proposals not submitted to the correct command, i.e., AFWERX.
 4. Proposals including classified information or data.
- D.** These instructions take precedence over information in other SBIR solicitations and instructions. However, for items not covered in these instructions, information contained in the AF X21.2 SBIR CSO and Small Business Administration (SBA) SBIR/STTR Policy Directive still applies. Note: The solicitation Contracting Officer reserves the right to change information currently in this solicitation at any time. If needed, changes will be sent to all eligible Phase I companies.

Table 1: Points of Contact

FOR:	CONTACT:
AF SBIR/STTR Questions	AF Help Desk, usaf.team@afsbirsttr.us
Proposal Submission / DSIP Issues:	DoD SBIR/STTR Help Desk, DoDSBIRSupport@reisystems.com
Solicitation Questions:	Daniel Brewer, Contracting Officer, daniel.brewer.13@us.af.mil (Note: populate subject line with “X21.2 Solicitation Inquiry”)

Table 2: Solicitation Information at a Glance

Period of Performance:	15 Months (12 Month Period of Performance + 3 Months Reporting)
Maximum Dollar Value (SBIR FUNDING)	\$750,000*
Types of Awards:	Contracts (FAR-Based) or Other Transactions for Prototype
Timing:	Evaluations, Receipt, and Award expected within 90 Days of Solicitation Close. May take up to 180 Days.
SAM Registration:	Active “All Awards”
Technical and Business Assistance:	Not Utilized by DAF
Evaluation Criteria: Ranked as Equally Important (See Section IV for full evaluation criteria)	
Criterion A: The potential for Government or private sector commercialization and benefits expected to accrue from commercialization. a) The SBC’s record of commercializing SBIR or other research, as indicated by pre-sales, pilots, sales, revenue, active users, subscriptions, downloads, and/or other forms of traction/adoption. b) The existence of Phase II follow-on commitments for the subject research, and funding commitments related to the subject effort, whether from Government sources, as documented in the DAF Customer Memorandum, or private sources, as documented through a letter of commitment, are evidence of commercialization potential. c) A sound transition strategy in the DAF Customer Memorandum is also evidence of commercialization potential.	
Criterion B: The appropriateness, relevance, and specificity of an identified Defense Need. A complete and compelling DAF Customer Memorandum (using the mandatory template provided at Attachment 1), signed by an appropriate DAF Customer and End-User, indicates the appropriateness, relevance, and specificity of an identified Defense Need. While not required, signed letters of interest from other Government personnel may be indicators of the appropriateness, relevance, and specificity of an identified Defense Need. Adequacy of the proposed effort and its relationship to fulfilling the identified Defense Need.	
Criterion C: The soundness, technical merit, and innovation of the proposed technical approach, as well as its differentiation from current customer alternatives, and incremental progress toward fulfilling the identified Defense need. Includes the proposed Principal Investigators’/Project Managers’, supporting staff, and consultants’ qualifications to execute the proposed approach.	

*The maximum SBIR funding for awards under this solicitation is \$750,000, regardless of second phase funding commitments (see VI.T).

The SBA SBIR/STTR Policy Directive states, “Except as expressly excluded or limited by statute, awarding agencies must provide for a reasonable fee or profit on SBIR/STTR Funding Agreements, consistent with normal profit margins provided to profit-making firms for R/R&D work.” Therefore, zero dollar profit proposals cannot be accepted. Awards may be negotiated; award type is at the Contracting Officer’s discretion.

II. PHASE II PROPOSAL FUNDAMENTALS

Phase I firms must qualify as small business concerns as defined in the AF X21.2 SBIR Commercial Solutions Opening (CSO) at Phase II award. Firms are highly encouraged to revisit the X21.2 SBIR CSO to review the requirements and elements common to Phase I and II awards. The Government reserves the right to award all, some, or none of the proposals received. The Government is not responsible for expenditures incurred by offerors prior to Phase II award. All awards are subject to funds availability, successful negotiations, and continued programmatic need.

A. Offeror Eligibility and Performance Requirements

1. Each proposer must qualify as a small business concern IAW 13 C.F.R §§ 701-705 at time of award and certify to this on the Proposal Coversheet. SBIR/STTR eligibility requirements are unique and do not correspond to other small business programs (see Section VI.15 of the AF X21.2 SBIR CSO). Proposers must meet eligibility requirements for Small Business Ownership and Control IAW 13 CFR § 121.702 and Section III.2.7 of the AF X21.2 SBIR CSO.
2. A minimum of **one-half** of the Phase II research and/or analysis must be conducted by the offeror. The work percentage is calculated using both direct and indirect costs after removal of the offeror’s proposed profit. This applies to the SBIR-funded work only; non-SBIR Government and/or private investment-funded work are not subject to the same constraints.
3. The Principal Investigator’s primary employment must be with the small business firm at award and throughout the performance period. Primary employment means more than one half the principal investigator's time is spent with the small business. Primary employment with a small business concern precludes full-time employment with another organization.
4. Phase II R/R&D work must be performed by the small business concern and its subcontractors in the United States.

B. Benchmarks

1. Proposers with prior SBIR/STTR awards must meet two benchmark requirements for progress toward commercialization as determined by the Small Business Administration (SBA) on 1 June each year.
2. For all proposers with greater than 20 Phase I awards over the past five fiscal years, excluding the most recent year (currently FY 2017-2021), the ratio of Phase II awards to Phase I awards must be at least 0.25.
3. For all proposers with greater than 15 Phase II awards over the last ten fiscal years excluding the last two years (currently FY 2010-2020), the proposer must have received,

to date, an average of > \$100,000 in sales and/or investments per Phase II award received or have obtained a number of patents from SBIR efforts > 15% of the Phase II awards received during the period.

4. Consequences of failure to meet benchmarks: SBA will identify and provide agencies annually on 1 June a list of companies failing to meet minimum performance requirements. These companies will not be eligible to submit Phase I proposals for one year. This requirement affects a company's eligibility for new Phase I awards only. Companies failing to meet minimum performance requirements may continue work on active SBIR/STTR awards. They may also apply for and receive new Phase II awards. Likewise, they are not prohibited from receiving Phase III awards.
5. To provide advanced warning, the SBA notifies companies on 1 April when they are failing to meet the benchmarks. If a company believes the information is not complete or accurate, it may provide the SBA Company Registry feedback at www.sbir.gov.
6. The SBA has also provided a Guide to SBIR/STTR Program Eligibility to help small businesses understand program eligibility requirements, determine eligibility, and accurately complete required certifications.
7. Companies' benchmark information is not available to the public.

C. Joint Ventures

1. Joint ventures and limited partnerships are permitted, provided the entity created qualifies as a small business in accordance with the Small Business Act, 13 U.S.C. § 121.701.

D. Investment and Majority Ownership

1. Small businesses owned in majority by multiple venture capital operating companies (VCOs), hedge funds, or private equity firms, are ineligible to submit proposals under this solicitation. This solicitation is not utilizing the Domestic Investment Pilot Program authority of the FY2020 NDAA Section 884.

E. Conflicts of Interest

1. Contract awards to firms owned by or employing current or previous Federal Government employees may constitute conflicts of interest in violation of Federal law. Proposing firms should contact the employee's Government agency Ethics Counselor for further guidance.

F. Classified Proposals

1. Classified proposals are not accepted under this solicitation. If Phase II performance will require classified work, the proposing firm must have or be able to obtain facility clearance. Additional information on facility and personnel clearance procedures and requirements is available at the Defense Security Service site, <http://www.dss.mil/index.html>.

G. Research Involving Human Subjects

1. Research involving human subjects, to include human biological specimens and human data, shall comply with applicable Federal and state laws and agency policy/guidelines for human subject protection.
2. Institutions selected for funding for research involving human subjects must provide current Federal Assurance of Compliance with Federal regulations documents for human subject protection. For example, the offeror may provide a Department of Health and Human Services, Office for Human Research Protections Federal Wide Assurance (<http://www.hhs.gov/ohrp>).
3. If selected, institutions must also provide Institutional Review Board (IRB) approval documents or an appropriate institution official's determination the work meets an exemption found in 32 CFR 219. Awards determined to include Research involving Human Subjects will include and be subject to DFARS 252.235-7004 Protection of

Human Subjects. **No funding can be applied to human subject research until all approvals are granted. (See Section VI.12 of the AF X21.2 SBIR CSO for additional details).**

H. Research Involving Animal Subjects

1. All animal research, development, testing, experimentation, education, and/or training shall comply with applicable DoD and DAF rules on animal acquisition, transport, care, handling, and use. For submissions requiring animal use, briefly describe plans for Institutional Animal Care and Use Committee (IACUC) review and approval.
2. All offerors must receive IACUC approval, plus secondary or headquarters-level approval by a DoD veterinarian trained or experienced in laboratory animal medicine and science. Awards determined to include Research Involving Animal Subjects will include and be subject to DFARS 252.235-7002 Animal Welfare. **No DoD-funded animal research may be conducted until all appropriate approvals are obtained. See Section VI.Q for additional information.**

I. Research Involving Recombinant DNA Molecules

1. All recombinant DNA molecule research shall comply with applicable Federal and state laws and regulations, as well as additional agency guidance. Research shall be approved by an Institutional Biosafety Committee. See Section VI.T for additional information.

J. Use of Unmanned Aircraft Systems (UAS)

1. All proposed UAS are subject to the provision Class Deviation 2020-O0015 252.225-7973 Prohibition on the Procurement of Foreign-Made Unmanned Aircraft Systems – Representation. Awards involving UAS will include and be subject to the clause Class Deviation 2020-O0015 252.225-7972 Prohibition on the Procurement of Foreign-Made Unmanned Aircraft Systems. Proposed UAS which are determined to be noncompliant with the aforementioned provision and clause will not be eligible for award.
2. All activities involving UAS operation shall be conducted IAW DoD memos “Guidance for the Domestic Use of Unmanned Aircraft Systems in the U.S. National Airspace”, 18 August 2018, and “Delegation Authority to Approve Exemptions for Using Commercial-Off-The-Shelf Unmanned Aerial Systems in Support of Urgent Needs”, 16 November 2018. Contractor personnel operating DoD or DoD-contracted UAS in US National Airspace, whether domestic use is related to an intelligence activity or not, will comply with all UAS operations in US National Airspace laws, regulations, and guidance. Specific programs utilizing UAS shall obtain a UAS operational use exemption. Therefore, the DAF may request additional documentation to support an exemption request. The DoD exemption approval process can last up to three months. **No funding can be used for contracted-UAS operations until ALL approvals are granted.**

K. Cyber Security

1. Is the proposed technology considered information technology? (Do you intend to provide an application, software and/or hardware to the DAF that will need to be: connected to the AF Network; need access to information on the DAF Network; provide information to the DAF Network?)
2. Note: Every Information Technology (IT) needs a Risk Management Framework (RMF) assessment and/or an Authority to Operate (ATO) within the Air Force. The RMF assessment ascertains the data security requirement of the IT and assigns an Impact Level (IL) of cloud security for the IT (e.g. IL-2 through IL-5). The second key is to establish DevSecOps in a secure Cloud environment, which meets the business’s needs. Fundamental cybersecurity control requirements for businesses are outlined in

NIST SP 800-171 Rev 1 and DFAR PGI 239.76-CLOUD COMPUTING and serve as the backbone to Air Force cybersecurity and data security. Cybersecurity Maturity Model Certification is another measure of cybersecurity and preparation for this future requirement is fulfilled by the steps above. AFVentures does not grant the ATO.

L. Proposal Status and Feedback

1. The Principal Investigator (PI) and Corporate Official (CO) identified on the Proposal Coversheet (Volume 1) are notified of proposal evaluation outcome via email. The SBC receives a separate notification for each proposal submitted. Please read carefully and note the proposal number referenced. If changes occur to the company mail/email address(es) or contacts after proposal submission, the information must be provided to the AF Help Desk. The message shall include the subject line, "AF X21.2 Phase II Address Change".
2. Instructions for those companies to request feedback will be included in the post-selection notification. Feedback requests received more than 30 calendar days after non selection notification receipt will not be fulfilled. Unsuccessful offerors are entitled to no more than one feedback response for each proposal.
3. NOTE: Feedback is not the same as a FAR Part 15 debriefing. Acquisitions under this solicitation are awarded via "other competitive procedures." Therefore, offerors are neither entitled to nor will they be provided FAR Part 15 debriefs.
4. It is anticipated all proposal reviews will be complete, selection decisions made, and notification letters sent within approximately 90 calendar days of solicitation close. Please refrain from contacting the solicitation Contracting Officer for proposal status before that time.

M. Registrations and Certifications

1. Firms must be registered in DSIP to prepare and submit proposals. Firms shall also register in the System for Award Management (SAM), <https://www.sam.gov>, **within 60 days of solicitation close in order to be eligible for proposal award.** Follow instructions therein to obtain a Commercial and Government Entity (CAGE) code and Unique Entity Identifier (UEI) number. Firms shall also verify "Purpose of Registration" is set to "I want to be able to bid on federal contracts or other procurement opportunities. I also want to be able to apply for grants, loans, and other financial assistance programs", NOT "I only want to apply for federal assistance opportunities like grants, loans, and other financial assistance programs." Firms registered to compete for federal assistance opportunities only at the time of proposal submission will not be considered for award. Addresses must be consistent between the proposal and SAM at award. Previously registered firms are advised to access SAM to ensure all company data is current before proposal submission.

In addition to the standard Federal and DoD procurement certifications, the SBA SBIR/STTR Policy Directive requires certain information be collected from firms at award and during the award life cycle. Each firm must provide this information with the proposal (Attachment 3), prior to receiving 50% of the total award amount, and prior to final payment.

It is strongly encouraged that proposers register in SAM, <https://sam.gov>, by the Close date of this CSO, or verify their registrations are still active and will not expire within 60 days of CSO Close.

2. In addition to the standard Federal and DoD procurement certifications, the SBA

SBIR/STTR Policy Directive requires certain information be collected from firms at award and during the award life cycle. Each firm must provide this information with the proposal (Attachment 3), prior to receiving 50% of the total award amount, and prior to final payment.

N. Fraud and False Statements

1. Knowingly and willfully making false, fictitious, or fraudulent statements or representations may be a felony under the Federal Criminal False Statement Act (18 USC Sec 1001), punishable by a fine of up to \$10,000, imprisonment up to five years, or both.
2. The DoD Office of the Inspector General (IG) Hotline is an important avenue for reporting fraud, waste, abuse, and mismanagement within the DoD. The DoD IG operates a hotline to receive and investigate complaints or information from contractor employees, DoD civilians, military service call (800) 424- 9098 Monday through Friday, 8:00 a.m. at 5:00 p.m. Eastern Time, or use hotline@dodig.mil.

O. Innovation in Manufacturing

1. Pursuant to Executive Order (EO) 13329, high priority is accorded to proposals advancing innovation in U.S. small business manufacturing.

III. PROPOSAL PREPARATION AND SUBMISSION

A. Descriptions

1. Proposals should be direct, concise, and informative. Type shall be no smaller than 12- pitch or 11-point on standard 8 1/2" X 11" paper, with one-inch margins and pages consecutively numbered. Offerors are discouraged from including promotional and non-programmatic items.
2. Phase II proposals require a comprehensive, detailed effort description. Proposals should demonstrate sufficient Phase I technical progress in solving an important DAF problem to warrant more extensive R/R&D. Developing technology commercial and military potential is extremely important. Particularly, the Air Force seeks proposals emphasizing technologies with dual-use applications and commerciality/commercial exploitation.

a) Proprietary Information

- (1) Information constituting a trade secret, commercial or financial information, confidential personal information, or data affecting national security must be clearly marked. It shall be protected to the extent permitted by law. Awards for selected proposals will incorporate the Work Plan by reference or as an attachment. **DO NOT INCLUDE PROPRIETARY INFORMATION.** See AF X21.2 SBIR CSO Section VI.9 for the definition of Proprietary Information and Section VIII.5.2 for Proprietary Information marking.

B. Volume 1 Instructions: DoD Proposal Cover Sheet

1. Prepare the proposal cover sheet in DSIP, <https://www.dodsbirsttr.mil/>. It must include a technical abstract of no more than 200 words describing the proposed R/R&D project, anticipated benefits, and potential commercial applications. When the Proposal Coversheet is saved, DSIP will assign a proposal number. **RETAIN A COPY OF THIS NUMBER.** The coversheet may be revised as often as necessary until the Phase II solicitation period closes. Final certification is required before submission.

- a) Technical Abstract:** The technical abstract should include a brief program objective and effort description. Technical abstracts are submitted to the Office of the Secretary of Defense (OSD) for publication. Therefore, it shall not contain proprietary or classified information. The term "Component" on the coversheet refers to the soliciting DAF organization, i.e., AFWERX.

- b) ***Anticipated Benefits/Potential Commercial Applications of R/R&D:*** The first line of the ‘Anticipated Benefits’ section should follow this format: “We solved [DAF problem] by providing [advantage], to help [DAF end-user organization] accomplish [DAF end-user’s] goal. We will recognize profit by charging [non-defense commercial customer organizations] to get [non- defense commercial benefit].” Be very explicit regarding the proposed DAF end user and customer, if different, which is likely, and potential non-SBIR funding sources after successful Phase II completion. This list should also include non-proprietary, non-defense commercial customers. Do not include specific DAF names or non-Defense customers, as this section will be publicly released.
- c) ***List of maximum 8 Key Words or Phrases, separated by commas, describing the project:*** This section will be used to categorize the application. These keywords may also be used to identify Phase III transition partners within the Government. Therefore, consider more than technical keywords. A potentially useful analogy is Search Engine Optimization (SEO) Keywords.
- d) ***Prior/Current/Pending Support of Similar Proposals/Awards:*** With proper notification, offerors may submit identical proposals or those with significant amounts of essentially equivalent work under one or more Federal announcements. It is unlawful to enter into two or more contracts requiring essentially equivalent effort. Potential situations must be disclosed to the DAF at proposal submission and before award. Proposal submissions previously, currently, or in-process of being funded by DAF or other Federal agency shall be identified. **Companies may only submit one Phase II proposal for each Phase I award.** On the Proposal Coversheet, answer ‘Yes’ to the following or similar question, “Has a proposal for essentially equivalent work been submitted to the DAF or other US Government agency?”

C. Volume 2 Instructions: Technical Volume

The technical volume shall be a white paper no longer than 15 pages. Include page numbers. Pages in excess of 15 will not be reviewed. **Proposals without a complete technical volume will not be considered for award.**

Table of Contents: Include a table of contents immediately following the coversheet (not included in 15 page count).

Glossary: Include a glossary of proposal acronyms and abbreviations (not included in 15 page count).

1. Technical Summary

- a) ***Technical Summary of Non-Defense Commercial Solution:*** Describe the specific problem/opportunity addressed in Phase I and relationship to Phase II.
- b) ***Non-Defense Commercial Solution:*** Describe the non-Defense commercial solution, including its use by non-Defense commercial customers. Describe its technical specifications as well as the qualitative and quantitative value it brings to the solution’s users. Additionally, please address the following:
 - (1) Describe the scope and importance of the Technical Problem or Opportunity.
 - (2) Is the proposed item “of a type”, i.e., similar to a commercial item customarily used by the public or by non-governmental entities for non governmental purposes?
 - (3) Has the proposed item been (1) sold, leased, or licensed to the public;

or (2) offered for sale, lease, or license to the public?

- (4) Include, where applicable, revenue, unit sales, user adoption, pre-sales, and investments. Broad adoption and commercial success can be indicators of commercial potential and reduced technical risk but are not mandated.
- (5) NOTE: This is a R&D solicitation, not a commercial off-the-shelf (COTS) resale solicitation. See FAR 2.101 for a “commercial items” definition.

c) Commercialization Potential

- (1) **Commercialization Plan:** The SBA and DoD require a commercialization plan to be submitted with the Phase II proposal. The plan should briefly describe the award’s anticipated results and potential commercialization, as well as plans to exploit it in both the Defense and non-Defense markets. The plan must include:
 - (a) Company information. Focused objectives/core competencies; specialization area(s); products with significant sales; and previous Federal and non-Federal funding history (including foreign investments), regulatory experience, and commercialization.
 - (b) Customer and Competition. Clear key technology objective descriptions, current competition advantages compared to competing products or services; description of hurdles to innovation acceptance.
 - (c) Market. Milestones, target dates, market size analyses, and estimated market share after first year and five years’ sales; explanation of plan to obtain market share.
 - (d) Intellectual Property. Patent status, technology lead, trade secrets, or other demonstration of a plan to achieve sufficient protection to reach the commercialization stage and attain at least a temporal competitive advantage.
 - (e) Financing. Plans for securing necessary non-STTR Government funding to move to Phase III.
 - (f) Assistance and Mentoring. Plans to obtain needed technical or business assistance through mentoring, partnering, or State assistance programs, Small Business Development Centers, Federally-funded research and development centers, Manufacturing Extension Partnership centers, or other assistance providers.
 - (g) **Specifically address the following questions:**
 - (i) What is the anticipated first product to incorporate the proposed technology?
 - (ii) Who are the probable customers, and what is the estimated market size?
 - (iii) How much money is required to bring the solution to market and how will it be raised?
 - (iv) Does the firm have necessary marketing expertise and, if not, how will the firm compensate?
 - (v) Who are the probable competitors, and what

- price/quality advantage is anticipated by the firm?
- (vi) Are there private sector or non-SBIR/STTR funding sources demonstrating commitment to Phase II efforts/results? This includes both outside private investment such as venture capital, angel investors, State or local government programs, etc. and internal funding sources, e.g., from affiliates. Delineate past and potential future investments, e.g., currently raising a round, signed term sheets, etc. Also state whether commitments are conditioned upon Phase II award receipt.
- (vii) Note private investment funds from qualified third-party investors available for potential Phase II enhancements, e.g., matching funds wherein the investor and the SBIR/STTR Program provide additional funding for a Phase IIb or sequential Phase II award
- (viii) Note private or Government follow-on commitments available for Phase III.
- (ix) Note other indicators of commercial potential.
- (x) Provide the past 12 months' total revenue from non-Defense commercial sales of the solution proposed for adaptation to meet a DAF need.
- (xi) State the proposed Phase II anticipated end results, specifically plans for Phase III transfer to a potential Government customer.
- (xii) Discuss the Phase II effort's significance as the basis for a Phase III effort.

d) *Non-Defense Commercial Customer Discovery*

- (a) Past revenue from the proposed non-Defense commercial solution's customers: Clearly list non-Defense, commercial customers, including revenue resulting from the proposed solution's sales. This should not include other solutions the company may offer.
- (b) Potential revenue-generating projects directly related to the proposed non-Defense, commercial solution or adaptation thereof. Separately list potential revenue-generating projects with Defense or non-Defense customers directly related to the proposed solution(s).
- (c) **NOTE: On-going or completed projects/sales are strongly preferred to potential projects.**

2. *Technical Summary of the Proposed Adaptation of Non-Defense Commercial Solution:* Describe the specific problem/opportunity addressed in Phase I and its relationship to Phase II.

- a)** Proposed Adaptation of Non-Defense Commercial Solution: Describe the proposed R/R&D adaptations of the Non-Defense commercial solution to meet a need. In this section, please answer the following questions:
 - (1) What's the scope and importance of the Technical Problem or

Opportunity?

- (2) How similar is the modified item to others sold to Non-Defense customers in the commercial marketplace?
- (3) Does the supplier perform similar modifications for Non-Defense customers?
- (4) Do the DAF-unique modifications change the product's essential use and purpose?
- (5) Are there differences in the production/manufacturing/delivery process used to perform the Defense modification versus Non-Governmental customers?
- (6) What are the quantitative benefits expected for identified Air Force end-users?

b) Military Applications/ DoD Customers: Briefly describe the proposed solution's existing/potential military requirement. Identify the DoD agency/organization most likely to become the solution's customer. It is likely the potential DoD customer and end-user are not the same person/organization. For example, the user may be an operational flying unit and the customer a system program office for the related aircraft.

3. ***Phase I Feasibility Study Results:*** The proposal shall detail the solution's ability to meet DAF end-user and customer needs through R/R&D. These results shall be framed in the context of DAF end-user and customer exploration previously performed.

a) Scientific or Technical R/R&D Effort: Include research questions, methods, results, and relevant literature.

b) DAF End-User and Customer Exploration Methods: Describe methods, both successful and unsuccessful, used for technical and scientific feasibility analysis, DAF customer and end-user exploration to adapt the non-Defense commercial solution to a specific DAF end-user needs. This should include detailed documentation involving at least one in-depth interview with a DAF end-user AND customer.

c) Empowered and Committed DAF End-Users: List and describe specific DAF end users, e.g., operators, willing to support further product solution R&D, test, evaluation, or trials in Phase II, e.g., through a signed Customer Memorandum (Attachment 1). Specifically explain how the proposed solution meets the need(s). Describe understanding of the DAF end-user's problem or benefit area in as much detail as possible.

d) Empowered and Committed AF Customers: List and describe the specific AF customer, e.g., as a Program Manager at a system program office, willing to assist the proposed solution's transition during Phase II and potentially into Phase III, e.g., through a Customer Memorandum. Specifically explain the proposed solution's integration with the existing systems.

e) Empowered and Committed US non-AF Government End-Users: List firm commitments, e.g., through a Customer Memorandum, from additional US Government end-users directly related to the proposed solution. Customer Memoranda must be uploaded to the 'Letters of Support' section in Volume 5, Supporting Documents.

(a) NOTE: Proposals without a Customer Memorandum, created using the mandatory template (Attachment 1) and signed by a DAF Customer AND End-User (if both are the same person, signatory must sign twice) will not be considered for award.

- (b) Offerors may add relevant supporting data such as journal articles, literature, and Government publications to or referenced in the proposal. **However, these documents will count toward the page limit.**

4. ***Phase II Technical Objectives and Key Results.***

- a) Describe clearly three to five Phase II R/R&D effort and trial objectives. These objectives shall be tied to specific tasks in the Phase II trial. These objectives shall be qualitative, but specific to the participating DAF end-users. The objectives shall be tied to specific time-periods, tangible, and unambiguous about anticipated results. These objectives shall describe end-state outcomes rather than processes or activities. Each objective shall be accompanied by three to five specific ‘key results’ measurable throughout Phase II performance. These will likely be quantitative in nature, e.g., deliver X widgets to DAF end-user. Non-quantitative key results shall be clearly measurable.
- b) List anticipated interactions with stakeholders necessary to accomplish a Phase II trial. Such stakeholders may include program managers, lawyers, small business professionals, test range officials, information assurance officials, system program office engineers, etc. Clearly describe Phase II trial completion requirements not within the offeror’s control, as well as plans to work within those constraints. NOTE: This includes clearances, e.g., DD Form 254, Contract Security Classification Specification, UAS waiver, etc.
- c) Compliance and Regulatory Activities: Please indicate whether or not the proposed effort includes any of the following activities (See Section II):
- (1) Will there be flight testing? (Indoor/outdoor/manned/unmanned)
 - (2) If yes to flight testing please provide (if known) the test facility/range name and/or location of where the flight test will be conducted?
 - (3) Will any hardware or software be delivered to the government as part of the contract? Note: The contractor must submit a preliminary hazard list (per Mil Std-882E requirements) with the delivered item.
 - (4) Will any government personnel, facilities, or government owned equipment be used during testing? Note: The contractor must complete a government safety review and provide the documentation to AFWERX via email (send to: p2@afwerx.af.mil) before the GFE is used in testing. After AFWERX receives the safety documentation a safety review process will be initiated (for project planning purposes the review will take approximately 4 weeks to complete).
 - (5) Will there be any weapons or munitions testing?
 - (6) Does this activity use explosives, propellants, deflagrating materials, or ammunition?
 - (7) Does this activity use a directed energy device (including lasers) or radio frequency radiation?
 - (8) Does this activity involve hazardous materials?
 - (9) Will there be any animal testing?
 - (10) Does any testing meet the definition of human subject research per 32 CFR 219?
 - (11) Will testing include use of toxins, human derived materials, or recombinant DNA?
 - (12) Does this project involve interaction or intervention w/ humans?

- (13) Does this project involve the access to, collection, use, analysis or sharing of human data or human bio specimens?
- d) Phase II Work Plan:** A Work Plan, not a Statement of Work, is required. The Work Plan shall include work outcomes or results, rather than performance methods, and measurable performance standards, including assessment methods. Phase II efforts shall attempt to demonstrate the Phase I effort's technical feasibility, including private sector or Government customer transition results. List the major requirements and specifications for the effort to indicate the project's scope. Work plan should explicitly accommodate the appropriate regulatory and compliance processes necessary to fulfill the desired objectives, detailing submission of documentation, waivers, or other materials as required by the respective process(es).
- e) Task Outline:** Provide an outline of work to be accomplished throughout the effort. Payments will be based on negotiated milestones with corresponding deliverables and funding.
- f) Milestone Progress and Funding Schedule:**
- (1) The maximum period of performance will be 15 months, including 12 months technical performance and three months for reporting. Include a concise program schedule with all key milestones identified. For each milestone provide:
 - (a) An expected delivery date, represented in number of months after contract award (CA), e.g., widget delivered at CA + 6 months;
 - (b) A deliverable of value; and
 - (c) Clear acceptance criteria to validate milestone achievement.
 - (2) Proposals shall not include more than 15 milestones/deliverables, including a final technical report and intervening milestones/deliveries at offerors' discretion. Upload suggested payment amounts/rationale/supporting information in "Additional Cost Information", Volume 5, Supporting Information (see Section III.G for additional details).
 - (3) NOTE: If proposing to work with multiple DAF end-users, consolidate all Customer Memoranda into a single, coherent, mutually agreed-upon Schedule of Milestones, meeting all proposed DAF end-users' approval.
 - (4) Table 3 is a Schedule of Milestones example. Each milestone marks a required deliverable's completion, e.g., baseline execution plan, prototype component, test plan, prototype production, final report submission, etc. Status reports alone cannot be milestones but shall be included as deliverables. Describe criteria to verify milestones' completion. Associated milestone payments shall reflect justifiable costs. Include supporting rationale with Supporting Documents.

Table 3: Milestone Schedule Example

<u>MILESTONE</u>	<u>EXPECTED DELIVERY (MONTHS AFTER CA)</u>	<u>DELIVERABLE</u>	<u>ACCEPTANC E CRITERIA</u>	<u>PAYMENT AMOUNT</u>

EXAMPLE: 02 - Deliver three adapted commercial widgets	CA + 4 months	Three adapted widgets meeting specs in Task 1 delivered to DAF end user.	DAF end-user will physically accept adapted widgets	\$250,000 Evidence: 2019 commercial widget sales data.
EXAMPLE: 03 - Widget test support.	CA + 15 months	Solution provider supports test, produces report re: adapted widget performance in solving DAF users' needs as described in task 01.	Report of test results confirmed by DAF end-users.	\$100,000 Evidence: Non Defense Customer B pilot program invoice.

NOTE: Non-Defense commercial customers' pricing data is likely proprietary and should be marked as such. See Section VI.O of these instructions for the definition of Proprietary Information and Section III.A.2.a for guidance regarding proprietary markings.

5. **Deliverables:** Include a section clearly describing the specific sample/prototype/ hardware/software to be delivered, as well as data deliverables, schedules, and quantities.
6. Unique Item Identification: IAW DFARS 252.211-7003, Item Identification and Valuation, may be required. Information regarding hardware may be found at: <https://www.acq.osd.mil/dpap/dars/dfars/html/current/252211.htm#252.211-7003>
 - a) Safety Related Deliverables: Safety requirements shall be followed in the proposed program's design and performance. The Work Plan must contain separate sections specifically addressing:
 - (1) Preliminary Hazard Analysis [Hardware Only]: If hardware is developed, include at least a preliminary hazard analysis.
 - (2) Preliminary Hazardous Material Report [Hardware Only]: If hazardous materials use is anticipated, provide:
 - (3) Materials identification;
 - (4) Materials purpose; and
 - (5) Possible risk minimizing alternatives/procedures/safeguards.
7. Required Reports: At a minimum, the following reports shall be deliverables under all Phase II contracts and Other Transactions for Prototype and must be included in the Work Plan. All are considered to be scientific and technical reports.
 - a) Final Report: Draft is due 30 days after Phase II technical effort completion. The final report's first page will be a single-page summary identifying the work's purpose, providing a brief description of effort accomplished, and listing potential results applications. The summary may be published by DoD and, therefore, shall not contain proprietary information. It shall also detail project objectives met, work completed, results obtained, and technical feasibility estimates.
 - b) Status Reports: Due quarterly at a minimum. These concise documents shall

describe progress in meeting selected DAF end-users' needs. Each shall be 15 slides or less. Status reports shall progress toward Phase II objectives and key results, as well as quantitative measure between 0 and 1 of progress toward each.

- c) Technical Interchange Meetings: Awardees will be required to conduct technical interchange meetings with Government technical personnel at least quarterly. To limit associated costs, these meetings will be held using a virtual app, e.g., Zoom, Microsoft Teams, etc.
- d) Phase II Summary Report: Due at technical effort completion, it shall be submitted via email to the government Program Manager. Reports shall not
 - (1) Exceed 700 words and must include a technology description and anticipated applications/benefits for the government and/or private sector use.

NOTE: Milestones/deliverables listed are not required to include associated deliverable dollar values. However, dollar values are required on the Signed Customer Memoranda (Attachment 1) milestones list.

- 8. Additional Reporting: The DAF end-user or customer may require, as applicable, other reports or documentation including, but not limited to:
 - a) • Software documentation and user manuals;
 - b) • Engineering drawings;
 - c) • Operation and maintenance documentation;
 - d) • Updated commercialization results;
 - e) • Safety hazard analysis when the project results in partial or total hardware development/delivery
- 9. Key Personnel: Identify key project personnel, including subcontractors and consultants. Include information regarding education, experience, and citizenship. A technical resume for the Principal Investigator, including publications, if any, shall be included.
 - a) Investors and Partners: Identify company investors, shareholders, lenders, technology licensors/licensees, or strategic advisors making significant contributions to support the Phase II effort. Describe their past experience or track record as it will support the technical or commercialization effort, e.g., leveraging other entities in company investors' portfolios or accessing other capital sources.
 - b) Related Work: Describe significant activities directly related to the proposed effort, including previous programs conducted by the Principal Investigator, proposing firm, consultants, or others, and their application to the proposed project. Include reviewers' comments regarding the offeror's knowledge of the state-of-the art in the specific approach proposed. Specify related Government efforts, SBIR or otherwise, awarded, previously proposed, or intended for the proposal.
 - c) Non-U.S. Citizens: Identity all proposed non-U.S. citizens and dual citizens as direct employees, subcontractors, funding or resource providers, technology licensees or licensors, or consultants. For these individuals, in addition to technical resumes, provide countries of origin, type of visas or work permits held, and explanation of their anticipated involvement level in the project.
 - (1) **Note:** For selected proposals determined subject to export-control, International Traffic in Arms Regulations (ITAR), and/or Export Administration Regulations (EAR), these individuals, if permitted to participate, are limited to work in the public domain. Further, tasks

assigned must not be capable of assimilation into an understanding of the project's overall objectives. This prevents foreign citizens from acting in key positions such as Principal Investigator, Senior Engineer, etc. Additional information may be requested during negotiations to verify foreign citizens' eligibility. The requested information regarding non U.S. citizens should be captured in this table or similar:

Table 4: Foreign National Participation

Full Name	Foreign National (Y/ N)	Country of Origin	Visa/Work Permit	Description of Involvement (specific work plan task(s))
(LIST)	(LIST)	(LIST)	(LIST)	(LIST)

d) Supply Chain Integrity

- (1) Involvement in joint ventures, partnerships, joint technology development agreements, teaming arrangements, or technical assistance or collaborative technology agreements, including associated entities or persons.
- (2) The firm's main component, software, or other suppliers. Discuss others' licensed intellectual property used as material inputs for the firm's products or services.
- (3) Entities utilizing the firm's Intellectual Property.
- (4) Significant non-US customer or investment base, including country(ies) and major customers or investors, i.e., >5% of revenue. Also discuss current or prospective foreign sovereign wealth funds or other foreign government instrumentalities as customers or investors.
- (5) Foreign interests or persons with power, by contractual arrangements or other, to direct or decide matters affecting company management, intellectual property, or operations. Can be direct or indirect, exercised or not, and exercisable or not through ownership of the US company's securities. If yes, state the firm's Foreign Ownership, Control, and Influence (FOCI) mitigation measures.
- (6) Identify needed classified information, if any, and identify the Federal agency approving the firm's classified information handling. If the firm does not currently have approval, describe the intended method to obtain it.
- (7) Verify the firm's owners, investors, and principal investigators meet all applicable U.S. citizenship, residency, and operation requirements under 13 CFR § 121.701-705 and the SBA SBIR/STTR Policy Directive.
- (8) Verify the firm shall comply with DFARS 252.225-7048, Export-Controlled Items (June 2013), during Phase II performance.
- (9) Discuss, if appropriate, the firm's mandatory or voluntary reviews of the Committee on Foreign Investment in the United States (CFIUS) under the Critical Technology review program IAW 31 CFR Part 801, or other CFIUS review. If not, discuss companies subject to, or eligible

for, CFIUS Critical Technology or other mandatory or voluntary reviews. Detail the firm's technology manufacture/ production considered to be emerging/foundational, regardless of export control or definition as critical technology under CFIUS. Describe the firm's consulting, scientific, or engineering services relating to emerging or foundational technology, if any, e.g., quantum information and computing, artificial intelligence, machine learning, advanced sensors and networks, etc.

- (10) Verify the firm shall comply with the Bayh-Dole Act US technology commercialization and manufacturing requirements, codified at 35 USC § 204.

D. Volume 3 Instructions: Cost Volume

1. Use the format provided in the Cost Breakdown Guidance for the DSIP online cost volume form. Some items may not apply to the specific project and, therefore, do not require input. The Government needs sufficient information to allow understanding of proposed funds expenditure, if selected for award. The Cost Volume must be adequate to enable DAF personnel to determine the overall price's purpose, necessity, and reasonableness. The cost volume will cover up to the maximum period of performance.
2. The online Cost Volume and Itemized Cost Volume Information are not included in any page limits. The itemized listing may be placed in the Explanatory Material section of the online Cost Volume or in Volume 5 (see Section III.G), Supporting Documents, under the "Other" drop-down options. Note: Only one file can be uploaded to DSIP. Ensure this file includes the complete Technical Volume and the information below.
3. The maximum amount of Air Force SBIR/STTR funds obligated to Phase II awards will be \$750,000, regardless of the presence of second phase funding commitments. Fixed price payments shall be tied to measurable milestones and deliverables, as agreed upon with the Government.
 - a) In order to properly account for SBIR/STTR vs. Other Government or Private Funding, all funding should be included in Volume 3 with sufficient supporting information included in Volume 5. The source and amount of Non-SBIR/STTR funding should be identified utilizing Attachment 2 and within the milestone schedule in Volume 5.

NOTE: BOTH SBIR/STTR and Non-SBIR/STTR funding must be identified as such and listed within the milestone schedule included in Volume 5. **If Non-SBIR/STTR funding is not identified and accounted for, and the proposal value exceeds the maximum SBIR/STTR funding amount, the assumption will be made that the proposal is above the maximum funds amount and disqualified.** If, during proposal submission, DSIP is presenting an error or warning when preparing the Volume 3, please contact the Contracting Officer (Table 1) prior to submission to ensure successful completion. The Contracting Officer will not be able to provide support if contacted after proposal submission.

4. Price analysis, including a determination of fair and reasonable pricing, is required and will be subject to U.S. Government and DoD standards. If using comparison with prior efforts, identify the basis upon which the prior prices were determined reasonable. If price analysis techniques are inadequate, provide a cost analysis IAW FAR 15.404-1(c). Cost analysis includes, but is not limited to consideration of materials, labor, travel, other direct costs, and proposed profit rates.

5. Direct cost items require substantiation as reasonable and realistic. Unsubstantiated costs must be detailed through cost estimating. Information should be included in the 'Additional Cost Information' section of Volume 5, Supporting Documents.
6. If selected for award, the Contracting Officer (CO) may require further information in areas such as equipment, materials, consultants, subcontractors, etc. Additional cost volume and accounting standard information is available in the DCAA publication titled "Audit Process Overview – Information for Contractors" at <http://www.dcaa.mil>.
7. Information included in the outline Cost Volume form includes but is not limited to:
 - a) Direct Labor Costs: Identify key personnel by name and/or labor category. Individuals' hours, labor category, labor overhead and/or fringe benefits, and actual hourly rates are required.
 - b) Direct Material Costs: Justify materials, parts, and supply costs with an itemized list containing types, quantities, price, and, where appropriate, purpose. If proposing direct material costs, justifying information, e.g., vendor quotes, historical costs, etc., can be included as "Supplemental Cost Information" in Volume 5, Other Supporting Documents.
 - c) Other Direct Costs: This cost category includes specialized services such as machining or milling, special testing or analysis, and costs incurred for temporary specialized equipment use. Proposals including leased hardware must provide an adequate lease vs. purchase justification or rationale. If proposing other direct costs, additional information can be included as "Supplemental Cost Information" in Volume 5, Other Supporting Documents.
 - d) Travel: Include travel costs in "Other Direct Costs." Must relate to project needs, broken out by trip, destination, purpose, number of travelers, airfare, per diem, lodging, ground transportation, etc. Recommend budgeting at least one trip to the DAF technical point of contact's (TPOC's) location. While actual travel costs may differ from proposed travel costs, the proposal information allows the Air Force CO to determine whether travel costs are reasonable.
 - e) Subcontracts: Include subcontract costs in "Other Direct Costs." Include copies of subcontract agreements to support costs. Subcontract agreements must adequately describe intended performance.
 - (1) At a minimum, include a Statement of Work (SOW) with a corresponding detailed Cost Volume for each planned subcontract.
 - f) Consultants: Include consultant costs in "Other Direct Costs". Provide a separate agreement letter for each consultant, briefly stating tasks to be performed, number of hours, and hourly rate.
 - (1) **NOTE: The total consultant fees, facility lease or usage fees, and other subcontract or purchase agreements costs may not exceed one-third of the total contract price, unless otherwise approved in writing by the CO.**
 - g) Special Tooling/Test Equipment/Material: Proposed equipment and materials will be carefully reviewed for appropriateness to the proposed effort. Special tooling and test equipment purchases must, in the CO's opinion, be advantageous to the Government and relate directly to the specific effort. It may include such items as innovative instrumentation and/or automatic test equipment. Title to Government Furnished Property or property acquired with Government funds will be vested with the DAF, unless it is determined title transfer to the contractor is more cost effective than DAF recovery.

PLEASE ROUND ALL COSTS TO THE NEAREST DOLLAR!

NOTE: If no exceptions are taken to an offeror's proposal, the Government may award a contract without negotiations. Therefore, the offeror's initial proposal should contain its best terms from the technical and price standpoint. The Government reserves the right to award Phase IIs as FAR-based firm fixed price contracts or Other Transactions for Prototype. Contact the CO identified in the selection notification with award type questions. The Government reserves the right to reopen negotiations if the CO later determines it necessary.

E. Volume 4 Instructions: Company Commercialization Report

1. Completion of the CCR as Volume 4 of the proposal submission in DSIP is required. Please refer to the Air Force X21.2 CSO for full instructions on this requirement. Information contained in the CCR will not be considered by the Air Force during proposal evaluations.
2. • **WARNING:** Uploading a new CCR under the Firm Forms section of DSIP or clicking "Save" or "Submit" in Volume 4 of one proposal submission is considered a change for ALL proposals under any open BAAs or CSOs. If a proposing firm has previously certified and submitted any Phase I or Direct to Phase II proposals under *any* BAA or CSO *still open*, those proposals will be automatically reopened. Proposing firms will have to recertify and resubmit such proposals. If a proposing firm does not recertify or resubmit such proposals, they will not be considered fully submitted and will not be evaluated.

F. Volume 5 Instructions: Supporting Documents

1. Volume 5 is **NOT** optional. It allows small businesses to submit additional Technical and Cost Volume supporting documentation. Documents acceptable for inclusion in Volume 5 are found in Attachment 7: Proposal Checklist.
 - a) **Customer Memoranda and Letters of Support:**
 - (1) Include signed Customer Memoranda from DAF end-users and DAF customers. Inclusion of a Customer Memorandum using the template at Attachment 1 and signed by a DAF Customer AND DAF End-User is mandatory. The Customer Memorandum formally captures interest from empowered and committed DAF end-users/customers as described above. Proposals without a signed Customer Memorandum or which do not follow the mandatory template will be disqualified as non-responsive to the solicitation. Joint organizations may be the End-Users/Customers but the Customer Memorandum must clearly articulate how the requirement represents a valid DAF need. In these cases, the primary Technical Point of Contact (TPOC) must be a DAF individual. Commitments from U.S. Government non-DAF End-Users/Customers will also be considered. However, there **MUST** be at least one DAF organization End-User and DAF Customer as described above.
 - (2) Letters of support demonstrate the proposed innovation, if developed, would solve a valid market need. More generally, letters of support help validate proposal commercial impact claims. Therefore, letters from potential technology end-users, i.e., customers, and corporate partners/collaborators are appropriate, as well as letters from actual or

potential investors.

- (3) Organize all memoranda/letters logically, e.g., DAF Customer Memoranda in one section, US Government non-DAF Customer Memoranda in another, letters of support from non-Defense commercial customers in another, etc., and uploaded in a single .pdf.
- (4) NOTE: If proposing to work with more than one DAF End-User/Customer, all signed Customer Memoranda must be consolidated into a single, coherent memorandum reflecting the consolidated work plan milestones and signed by the lead DAF Phase II Program Manager.

b) Lifecycle Certification: All SBIR/STTR Phase II awardees must complete certification documents (Attachment 3) for submission with the proposal, prior to receipt of more than half the total contract amount, AND before final payment receipt. All questions must be answered and an authorized company officer must sign and date prior to submission. Completion is part of Phase II performance requirements.

c) Prior, Current, or Pending Support of Similar Proposals or Awards. Identify proposals for essentially equivalent work submitted to other US Government agencies or DoD components as described above (Section III.B.d):

Table 5: Prior, Current, or Pending Support of Similar Proposals or Awards

Federal Agency to which Proposal was Submitted	Date of Submission	Proposal Title and, if SBIR/STTR Number	Principal Investigator's Name	If Awarded, include Contract Number
(LIST)	(LIST)	(LIST)	(LIST)	(LIST)

(1) NOTE 1: If this DOES NOT apply, include a single-page document stating, “No prior, current, or pending US Government support for proposed work.”

(2) NOTE 2: The identification of similar proposals or awards is particularly important for the special topics, as they are broader in nature than most traditional SBIR topics.

d) Foreign Citizens Table. For further information, see Table 4, and Section VI.F. If subject to ITAR/EAR, involvement of foreign nationals may be restricted. “Foreign National” is defined in 22 CFR 120.16 as a person who is neither a lawful permanent resident (8 USC §1101(a)(20)), nor a protected individual (8 USC § 1324b(a)(3)) of the U.S. It also includes foreign corporations, business associations, partnerships, trusts, societies, other entities/groups not incorporated/organized to do business in the United States, international organizations, foreign governments, and their agencies and subdivisions. Offerors must identify foreign national team members and provide their

countries of origin, visa/work permits possessed, and assigned Work Plan tasks. Additional information may be required during negotiations to verify eligibility. Even if eligible, participation may be restricted due to U.S. export control laws.

(1) NOTE: Export control compliance statements are not all-inclusive and do not remove submitters' liability to comply with applicable ITAR/EAR export control restrictions or inform the Government of potential export restrictions as efforts proceed (see Section VI.F).

e) Supplemental Cost Information. A detailed cost proposal must be submitted and uploaded as Additional Cost Information in Section III.G, Volume 5. Cost proposal information will be treated as proprietary. Include direct cost substantiating information, e.g., non-Defense solution sales figures, based upon price analysis in the Cost Volume. Proposed costs must be provided by individual cost elements and contractor fiscal year (FY) in sufficient detail to support estimates' bases, as well as the purpose, necessity, and reasonableness of each. This information will expedite contract execution if selected for award. For further detail, see section III.E, Volume 3: Cost Volume.

f) Technical Data Rights (Assertions). Rights in technical data, including software, developed under the terms of contracts awarded under this solicitation generally remain with the contractor. The Government obtains SBIR/STTR data rights in such technical data, beginning at contract award and ending 20 years after time of award. This data shall be marked with the CD 2020-O0007 DFARS 252.227-7018, Rights in Noncommercial Technical Data and Computer Software – Small Business Innovation Research (SBIR) Program, restrictive legend. Upon expiration of the 20 year protection period, the Government has government purpose rights in the SBIR data. During the license period, the Government may not release or disclose SBIR data to any persons other than its support services contractors except (1) for peer review purposes; (2) as expressly permitted by the contractor; or (3) a use, release, or disclosure is necessary for Government-operated items' emergency repair or overhaul.

Proposing firms asserting data rights should include the following table in the proposal:

Table 6: Assertion of Technical Data Rights

Technical Data/ Computer Software to be Furnished With Restrictions	Basis for Assertion • None • Developed exclusively at private expense • Developed partially at private expense	Asserted Rights Category • None • Govt Purpose • Limited (Tech Data) • Restricted Rights (Software) • Specifically Negotiated License	Name of Person Asserting Restrictions
(LIST)	(LIST)	(LIST)	(LIST)

(1) If a proposer plans to submit assertions IAW DFARS 252.227-7018, Identification and Assertion of Use, Release, or Disclosure Restrictions,

those assertions must be identified. Further, assertion of use, release, or disclosure restrictions MUST be included in this section. A contract cannot be awarded until assertions have been approved.

- g)** Funding Agreement Certification (signed). Firms selected for award must complete the certificate at proposal submission and include the information. (Link at Attachment 3)
- h)** SBIR/STTR Environment, Safety and Occupational Health (ESOH) Questionnaire: Include a completed version of the SBIR/STTR Environment, Safety and Occupational Health (ESOH) Questionnaire. (Link at Attachment 4.)
- i)** ‘Solution One-Pager’ Summary Document: Include a visually appealing, 1-page company ‘sales pitch’ and the proposed non-Defense commercial solution adaptation to meet a DAF need. The document may be circulated publicly and, therefore, shall contain no confidential or Personally Identifiable Information, e.g., names, contact information, etc., for DAF employees. Example can be found via: <https://www.dropbox.com/s/mt2amgwukcyxnxv/One-Pager%20Guidelines%2010-13.pdf?dl=0>
- j)** Phase II Milestones and Funding Document Chart and Second Phase Funding Commitment Documentation: Include the following information to establish proposed milestones and payment schedule.

 - (1) Provide a completed Milestones Progress and Funding Schedule form (Table 3), including the proposed project milestones, funding expenditure/payment schedule, and second phase funding commitments, as appropriate.
 - (2) If second phase funding commitments are included in the proposal, provide a letter from the outside investor and/or affiliated funder to the offeror, uploaded to Volume 5, Other, containing:

 - (a) A commitment to provide funding in cash, contingent on award selection and fulfilling specified project milestones. Milestones must be structured to avoid front-loading and/or unbalanced SBIR funds expenditure. Specifically, second phase funding commitments cannot be conditioned on majority or total SBIR funds expenditure before private investor/non-SBIR Government funding is expended.
 - (b) A brief, i.e., ≤ one page description of investment-funded tasks. Invested funds may pay for additional project-related R&D or other non-Work Plan activities, provided they further the technology’s development and/or commercialization, e.g., marketing.
 - (c) A brief, i.e., ≤ one page, statement describing the investor’s experience evaluating companies’ technology commercialization ability and (ii) technology market assessment, including the company’s ability to bring it to market.
 - (3) For Governmental second phase commitments that are to be applied directly to the contract, DRAFT funding documents (Form 9s/MIPRs) are due within 45 days of the solicitation closing. Once selection letters are sent, CERTIFIED funding documents are due five business days later. If certified funding documents are not provided [by the solicitation close date +45 days], the effort will move forward without the second phase funding commitment considered. To initiate governmental funding

transfer, the interested government organization should send an email to the AFRL/RGF Incoming Documents mailbox, AFRL.SBIR.STTR@us.af.mil. The sender will receive an auto-response with guidance regarding incoming funds submission and associated information required. RGF requests a **draft** MIPR/Form 9 be submitted to the same inbox before certification to ensure the document is complete and accurate.

(a) NOTE 1: If sending funding via MIPR, RGF requires a signed MOA with the submitting Government organization.

(b) NOTE 2: If providing other than RDT&E 3600 funds, the corresponding proposal milestones must clearly delineate deliverables for which the non-RDT&E funds will be used. Additionally, the submitting and receiving Comptrollers must agree to the funds propriety for the specified deliverables.

k) Additional Equipment/Facilities Information: Describe instrumentation and/or physical and digital facilities necessary and available to carry out the Phase II effort. Justify equipment to be purchased and included in ‘Additional Cost Information’, as necessary. State whether proposed performance locations meet Federal, state, and local Governments environmental laws and regulations for, but not limited to, airborne emissions, waterborne effluents, external radiation levels, outdoor noise, solid/bulk waste disposal practices, and toxic/hazardous material handling/storage.

l) Additional Subcontractor/Consultant Information: List private companies, consultants, universities or Federal Laboratories potentially formally involved in the project. All should be described in detail and included in the cost proposal as necessary. Copies of signed consultant and subcontractor letters of intent must be attached to the proposal. These letters should briefly state the contribution or expertise provided. Include information regarding consultant or subcontractor unique qualifications.

m) Contractor Certification Regarding Provision of Prohibited Video Surveillance and Telecommunications Services and Equipment. The DoD must comply with Section 889(a)(1)(B) of the National Defense Authorization Act (NDAA) for Fiscal Year 2019, and is working to reduce or eliminate contracts with entities that use any equipment, system, or service that uses covered telecommunications equipment or services (as defined in Attachment 3) as a substantial or essential component of any system, or as critical technology as part of any system.

All proposals must include the certifications found in Federal Acquisition Regulation clauses 52.204-24, 52.204-25, and 52.204-26, executed by the proposer’s authorized company representative. These Federal Acquisition Regulation clauses may be found at Attachment 3. **These certifications must be signed by the authorized company representative and uploaded as a separate PDF file in Volume 5 for all proposal submissions.** Completion of the required certification clauses requires due diligence for contractors proposed as a part of the submission, including research partners and suppliers. Therefore, proposers are strongly encouraged to review certification requirements early in the proposal development process. Failure to complete and/or submit the required certifications with the proposal may be cause for rejection without evaluation.

n) Foreign Disclosure Addendum. Proposers must review Attachment 4,

Foreign Ownership or Control Disclosure, to determine applicability. If applicable, an authorized firm representative must complete and sign the document. The completed and signed disclosure must be uploaded to proposal Volume 5.

G. Volume 6 Instructions: Fraud, Waste and Abuse Training

The Fraud, Waste and Abuse (FWA) training is **required** for Phase II proposals. The training provides information on what represents FWA in the SBIR/STTR Programs, the most common mistakes leading to FWA, and the penalties and ways to prevent FWA. This training material can be found in the Volume 6 section of the proposal submission module in DSIP and must be thoroughly reviewed once per year. Plan ahead and leave ample time to complete this training based on the proposal submission deadline. FWA training must be completed by one DSIP firm user with read/write access (Proposal Owner, Corporate Official or Firm Admin) on behalf of the firm.

IV. SELECTION METHOD AND REVIEW CRITERIA

- A.** All Phase II proposals will be evaluated on a competitive basis. Proposals will initially be screened to determine responsiveness. Proposals passing this initial screening will be peer reviewed by engineers and/or scientists to determine the most promising technical and scientific approaches. Each proposal will be judged on its own merits. Companies can submit NO MORE THAN one Phase II proposal per Phase I award. DAF is under no obligation to fund a specific number of Phase II proposals and may elect to award none.
- B.** Proposals will be peer reviewed based on the criteria below. Selections will represent best value to the Government considering the following factors which are of equal importance:
 - 1. Criterion A: The potential for Government or private sector commercialization and benefits expected to accrue from commercialization.
 - a)** The SBC's record of commercializing SBIR or other research, as indicated by pre-sales, pilots, sales, revenue, active users, subscriptions, downloads, and/or other forms of traction/adoption.
 - b)** The existence of Phase II follow-on commitments for the subject research, and funding commitments related to the subject effort, whether from Government sources, as documented in the DAF Customer Memorandum, or private sources, as documented through a letter of commitment, are evidence of commercialization potential.
 - c)** A sound transition strategy in the DAF Customer Memorandum is also evidence of commercialization potential.
 - 2. Criterion B: The appropriateness, relevance, and specificity of an identified Defense Need. A complete and compelling DAF Customer Memorandum (using the mandatory template provided at Attachment 1), signed by an appropriate DAF Customer and DAF End-User, indicates the appropriateness, relevance, and specificity of an identified Defense Need. While not required, signed letters of interest from other Government personnel may be indicators of the appropriateness, relevance, and specificity of an identified Defense Need. Adequacy of the proposed effort and its relationship to fulfilling the identified Defense Need.
 - 3. Criterion C: The soundness, technical merit, and innovation of the proposed technical approach, as well as its differentiation from current customer alternatives, and incremental progress toward fulfilling the identified Defense need. Includes the proposed Principal Investigators'/Project Managers', supporting staff, and consultants' qualifications to execute the proposed approach.

- C.** All evaluation criteria other than cost or price, when combined, are significantly more important than cost or price. Where technical evaluations are essentially equal in merit, cost and/or price will be considered in determining the successful offeror(s). All proposals are evaluated IAW the stated evaluation criteria. Proposals are then prioritized based on importance to agency programs. Under the AFWERX Open Topic, importance to agency program correlates to the company's overall technical evaluation score. Where technical evaluations are essentially equal in merit, and thus equal in importance to agency programs, cost and/or price will be considered in determining the successful offeror.
- D.** The aforementioned peer review results in a prioritized list of proposals which represents importance to agency programs. Available funding is then allocated, starting with the highest priority proposal, until budgeted funding is exhausted. However, DAF reserves the right to award all, some or none of the proposals received. Once peer reviews are complete, technically acceptable proposals will be assessed for selection based upon importance to agency programs and funds availability in accordance with CD 2022-O0007, Class Deviation – Defense Commercial Solutions Opening.
- E.** Price reasonableness will be considered to the extent appropriate. IAW 15 USC 638(dd)(7), investment by venture capital, private equity firms, or hedge funds shall not be used as an award criterion. Peer reviewers will base conclusions solely on proposal content. It cannot be assumed reviewers are acquainted with the firm, key individuals, or referenced experiments.
- F.** Other Factors Considered During the Selection Process:
1. National security concerns.
 2. IAW EO 13329, proposals advancing innovation in U.S. small business manufacturing are given high priority.
 3. The Energy Independence and Security Act of 2007 (Act), 19 December 2007, P.L. 110- 140, prioritizes energy efficiency/renewable energy system R&D projects. Proposals from eligible US-owned SBCs accomplishing biomedical research in energy efficiency/renewable energy systems are encouraged.
 4. Directly related Phase II funding commitments from non-SBIR Government sources may be considered to determine the successful offeror when multiple proposals are determined equal in technical merit.

V. PROTESTS, FEEDBACK, AND RELEASE OF EVALUATIONS

- A.** This solicitation and resulting award decisions may be protested to the CO, the Government Accountability Office (GAO), or the U.S. Court of Federal Claims. Further, solicitations and award decisions involving Other Transactions for Prototype may be challenged in U.S. District Courts. Small business awardees' size or status may be protested to the SBA. Solicitation protests must be filed prior the submission deadline date/time.
- B.** Feedback will be provided to unsuccessful offerors in accordance with the selection/non-selection notification. Proposal feedback may be requested as instructed in the DAF SBIR/STTR system notification within 30 days after non-selection notification receipt. Requests received more than 30 days after non-selection notification receipt will not be fulfilled. Unsuccessful offerors are entitled to no more than one feedback per proposal.
- C.** NOTE: Feedback is not the same as a FAR Part 15 debriefing. Acquisitions under this solicitation are awarded via "other competitive procedures." Therefore, offerors are neither entitled to nor will they be provided FAR Part 15 debriefs.

VI. DEFINITIONS

The following definitions from the SBA SBIR/STTR Policy Directive, the Federal Acquisition

Regulation (FAR) and 10 USC 2371b apply for the purpose of this solicitation:

- A. Certified HUBZone Small Business Concern:** An SBC that has been certified by SBA under the Historically Underutilized Business Zones (HUBZone) Program (13 CFR § 126) as a HUBZone firm listed in the Dynamic Small Business Search (DSBS).
- B. Commercialization:** The process of developing products, processes, technologies, or services and the production and delivery (whether by the originating party or others) of the products, processes, technologies, or services for sale to or use by the Federal government or commercial markets.
- C. Commercial Applications (15 USC 638(e)):** The term “commercial applications” shall not be construed to exclude testing and evaluation of products, services, or technologies for use in technical or weapons systems.
- D. Commercial Solutions Opening:** A competitive procedure COs may use to acquire innovative commercial items, technologies, or services pursuant to FAR Class Deviation 2022-O0007.
- E. Essentially Equivalent Work:** Work that is substantially the same research, which is proposed for funding in more than one contract proposal or grant application submitted to the same Federal agency or submitted to two or more different Federal agencies for review and funding consideration; or work where a specific research objective and the research design for accomplishing the objective are the same or closely related to another proposal or award, regardless of the funding source.
- F. Export Control:** The International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120 through 130, and the Export Administration Regulations (EAR), 15 CFR Parts 730 through 799, will apply to all projects with military or dual-use applications developing beyond fundamental research, which is basic and applied research ordinarily published and shared broadly within the scientific community. More information is available at https://www.pmddtc.state.gov/?id+ddtc_kb_article_page&sys_id=24d528fddbfc930044f9ff621f961987.
- G. Federal Laboratory:** As defined in 15 USC §3703, means any laboratory, any Federally funded research and development center (FFRDC), or any center established under 15 USC §§ 3705 & 3707 that is owned, leased, or otherwise used by a Federal agency and funded by the Federal Government, whether operated by the Government or by a contractor.
- H. Foreign Nationals:** Foreign Nationals (also known as Foreign Persons) as defined by 22 CFR 120.16 means any natural person who is not a lawful permanent resident as defined by 8 USC § 1101(a)(20) or who is not a protected individual as defined by 8 USC § 1324b(a)(3). It also means any foreign corporation, business association, partnership, trust, society or any other entity or group that is not incorporated or organized to do business in the United States, as well as international organizations, foreign governments and any agency or subdivision of foreign governments (e.g., diplomatic missions). “Lawfully admitted for permanent residence” means the status of having been lawfully accorded the privilege of residing permanently in the United States as an immigrant in accordance with the immigration laws, such status not having changed.
 - 1. “Protected individual” means an individual who is (A) a citizen or national of the US or (B) an alien lawfully admitted for permanent residence, granted alien status lawfully admitted for temporary residence IAW 8 USC §1160(a) or §1255a(a)(1), admitted as a refugee IAW 8 USC §1157, or granted asylum IAW Section 8 USC §1158. It does not include (i) an alien who fails to apply for naturalization within six months of the first eligibility date (by virtue of lawful permanent residence period) or, if later, within six months of November 6, 1986, and (ii) an alien applying on a timely basis but not naturalized as a citizen within 2 years of the application date, unless the alien can establish active naturalization pursuit, except time consumed in the Service's application

processing shall not be counted toward the 2-year period.

I. Fraud, Waste, and Abuse

- a) Fraud includes any false representation about a material fact or any intentional deception designed to deprive the United States unlawfully of something of value or to secure from the United States a benefit, privilege, allowance, or consideration to which an individual or business is not entitled.
- b) Waste includes extravagant, careless or needless expenditure of Government funds, or the consumption of Government property, that results from deficient practices, systems, controls, or decisions.
- c) Abuse includes any intentional or improper use of Government resources, such as misuse of rank, position, or authority or resources.

J. Funding Agreement: Any contract, grant, or cooperative agreement entered into between any Federal Agency and any small business concern for the performance of experimental, developmental, or research work, including products or services, funded in whole or in part by the Federal Government. Other transactions under 10 USC 2371b may also be used, consistent with Other Transactions Guide (2018) from the Under Secretary of Defense for Acquisition & Sustainment. Only the contract method or the other transaction method will be used for DAF SBIR awards.

K. Innovative: (1) Any new technology, process, or method, including research and development; or (2) any new application of an existing technology, process, or method.

L. Other Transaction: Refers to the type of Other Transaction Agreement (OTA) that may be placed as a result of this solicitation. This type of OT is authorized by 10 U.S.C 2371b for prototype projects directly relevant to enhancing the mission effectiveness of military personnel and the supporting platforms, systems, components, or material proposed to be acquired or developed by the DoD, or for the improvement of platforms, systems, components, or materials in use by the armed forces. This type of OTA is treated by DoD as an acquisition instrument, commonly referred to as an "other transaction" for a prototype or a Section 2371b "other transaction." The definition of a "prototype project" in the context of an OT is as follows: a prototype project addresses a proof of concept, model, reverse engineering to address obsolescence, pilot, novel application of commercial technologies for defense purposes, agile development activity, creation, design, development, demonstration of technical or operational utility, or combinations of the foregoing. A process, including a business process, may be the subject of a prototype project.

M. Performance Benchmarks for Progress Toward Commercialization: In accordance with the SBA SBIR Policy Directive Sec 4.(a)(3), DoD established a threshold for the application of a benchmark where it is applied only to Phase I applicants that have received more than twenty (20) awards over the prior five (5) fiscal years as determined by the Small Business Administration. The ratio of Phase II awards received to Phase I awards received during this period must be at least 0.25. Additional information on performance benchmarking for Phase I applicants can be found at <https://www.sbir.gov/performance-benchmarks>.

N. Principal Investigator: The principal investigator/project manager is the individual designated by the applicant to provide the scientific and technical direction to a project supported by the funding agreement. For both Phase I and II, the principal investigator's primary employment must be with either the SBC or the research institution at award and throughout Phase II performance. Primary employment means more than one-half of the principal investigator's time is spent in the SBC or research institution's employ. This precludes full-time employment with another organization. Occasionally, deviations from this requirement may occur, and must be approved in writing by the CO after consultation with the DAF SBIR Program Manager. Further, an SBC may replace the principal investigator on an SBIR Phase I or II, subject to approval in writing by the CO.

O. Proprietary Information: Information constituting a trade secret or proprietary commercial

or financial information.

P. Research or Research and Development (R/R&D): Any activity that is:

- a) A systematic, intensive study directed toward greater knowledge or understanding of the subject studied;
- b) A systematic study directed specifically toward applying new knowledge to meet a recognized need; or
- c) A systematic application of knowledge toward the production of useful materials, devices, and systems or methods, including design, development, and improvement of prototypes and new processes to meet specific requirements.

Q. Research Involving Animal Subjects: All activities involving animal subjects shall be conducted in accordance with DoDI 3216.01 “Use of Animals in DoD Programs,” 9 CFR parts 1-4 “Animal Welfare Regulations,” National Academy of Sciences Publication “Guide for the Care & Use of Laboratory Animals,” as amended, and the Department of Agriculture rules implementing the Animal Welfare Act (7 USC §§ 2131-2159), as well as other applicable Federal and state law and regulation and DoD instructions. “Animal use” protocols apply to all activities that meet any of the following criteria:

- a) Any research, development, test, evaluation or training, (including experimentation) involving an animal or animals.
- b) An animal is defined as any living or dead, vertebrate organism (non-human) that is being used or is intended for use in research, development, test, evaluation or training.
- c) A vertebrate is a member of the subphylum Vertebrata (within the phylum Chordata), including birds and cold-blooded animals.

(1) See DoDI 3216.01 for definitions of these terms and more information about the applicability of DoDI 3216.01 to work involving animals.

R. Research Involving Human Subjects: All research involving human subjects shall be conducted in accordance with 32 CFR § 219 “The Common Rule,” 10 USC § 980 “Limitation on Use of Humans as Experimental Subjects,” and DoDD 3216.02 “Protection of Human Subjects and Adherence to Ethical Standards in DoD-Supported Research,” as well as other applicable Federal and state law and regulations, and DoD component guidance. Offerors must be cognizant of and abide by the additional restrictions and limitations imposed on the DoD regarding research involving human subjects, specifically as they regard vulnerable populations (DoDD 3216.02), recruitment of military research subjects (DoDD 3216.02), and informed consent and surrogate consent (10 USC § 980) and chemical and biological agent research (DoDD 3216.02). Food and Drug Administration regulation and policies may also apply.

1. “Human use” protocols apply to all research that meets any of the following criteria:

- a) Any research involving an intervention or an interaction with a living person that would not be occurring or would be occurring in some other fashion but for this research.
- b) Any research involving identifiable private information. This may include data/information/specimens collected originally from living individuals (broadcast video, web-use logs, tissue, blood, medical or personnel records, health data repositories, etc.) in which the identity of the subject is known, or the identity may be readily ascertained by the investigator or associated with the data/information/specimens.
- c) See DoDD 3216.02 for definitions of these terms and more information about the applicability of DoDI 3216.02 to research involving human subjects.
- d) The DAF may request additional Federal Assurance documentation. All institutions engaged in human subject research, to include subcontractors, must

have a valid Assurance and comply with the DFARS clause 252.235-7004 Protection of Human Subjects (July 2009). Institutions proposing to conduct human subject research meeting an exemption criteria in 32 CFR 219.101 are not required to provide a Federal Assurance of Compliance. See DFARS clause 252.235-7004 Protection of Human Subjects available in full text via: <https://www.acquisition.gov/dfars/part-252-solicitation-provisions-and-contract-clauses#DFARS-252.235-7004>

- e) If selected, institutions must also provide Institutional Review Board (IRB) approval documents or an appropriate institution official's determination the work meets an exemption found in 32 CFR 219. As part of the IRB review process, appropriate training documents for all investigators must accompany the protocol. The protocol, separate from the proposal, must include a detailed research plan description, study population, study participation risks and benefits, recruitment and consent process, data collection, and data analysis.
- f) The time required for the IRB's protocol review and approval will vary, depending on such things as procedures used, research complexity, the study participant risk level, and Principal Investigator responsiveness. The average process can last one to three months. Once approved, the DAF will review the protocol and the IRB's determination to ensure research will comply with DoD and DAF policies. The DoD review process can last three to six months. Ample time should be allotted to complete the IRB and DoD approval processes before recruiting subjects.

S. Research Involving Recombinant DNA Molecules: Any recipient performing research involving recombinant DNA molecules and/or organisms and viruses containing recombinant DNA molecules shall comply with the National Institutes of Health Guidelines for Research Involving Recombinant DNA Molecules, dated January 2011, as amended. The guidelines can be found at: https://osp.od.nih.gov/wp-content/uploads/2013/06/NIH_Guidelines.pdf.

Recombinant DNA is defined as (i) molecules that are constructed outside living cells by joining natural or synthetic DNA segments to DNA molecules that can replicate in living cells or (ii) molecules that result from the replication of those described in (i) above.

T. Second Phase Funding Commitments: This section provides guidance regarding relationships between a small company and outside investors, as well as for recording funding contributions by the small company or its affiliates. Second phase funding commitments constitute evidence of commercial potential pursuant to 15 USC 638(e). There is no requirement for said commitments, and there is no preference for proposals which include them. There are no ratios attached to second phase funding commitment amounts. Each applicant's commercial potential is evaluated based on its own merits in accordance with stated evaluation criteria. For questions regarding specific situations' qualification, please contact the solicitation Contracting Officer.

1. Examples of Second Phase Funding Commitments:

- a) Money received from internal funds or small business affiliates for R/R&D is considered "cost share". The SBIR/STTR Policy Directive states cost share can be encouraged.
- b) • Funding from outside investors, which includes other companies, State or local governments, venture capital firms, angel investors, non-SBIR/non-STTR Federal Government entities, or any combination thereof. Does not include the small business's owners, family members, and/or the small business's affiliates, as defined in 13 CFR Section 121.103, as highlighted below:

- (1) Concerns are affiliates when one concern controls or has power to control the other, or a third party or parties controls or has power to

control both.

- (2) Factors considered include ownership, management, previous relationships with or ties to another concern, and contractual relationships, to determine affiliation exists.
- (3) Individuals or firms with identical or substantially identical business or economic interests, such as family members, persons with common investments, or firms economically dependent through contractual or other relationships, may be treated as one party with such interests aggregated. Although the proposal must designate funding as provided by outside/external or internal/affiliated sources, the CO or the SBA may deem them to be otherwise external/outside or internal/affiliated.

- c) In contrast to internal/affiliated funding commitments, outside funding commitments must be an arrangement by which the outside party provides the small business cash in return for such items as equity or loans convertible to equity; a share of royalties; rights in the technology; a profit percentage; an advance purchase order for products resulting from the technology; Federal funds transferred to AFRL/RGF via Military Interdepartmental Purchase Request; or any combination thereof.

U. Service-Disabled Veteran-Owned Small Business (SDVOSB): A small business concern owned and controlled by a Service-Disabled Veteran or Service-Disabled Veterans, as defined in Small Business Act 15 USC § 632(q)(2) and SBA's implementing SDVOSB regulations (13 CFR 125).

V. Small Business Concern (SBC): A concern that meets the requirements set forth in 13 CFR § 121.702 (available [here](#)). An SBC must satisfy the following conditions on the date of award:

1. Is organized for profit, with a place of business located in the United States, which operates primarily within the United States or which makes a significant contribution to the United States economy through payment of taxes or use of American products, materials or labor;
2. Is in the legal form of an individual proprietorship, partnership, limited liability company, corporation, joint venture, association, trust or cooperative, except that if the concern is a joint venture, each entity to the venture must meet the requirements set forth in paragraph (c) below;
3. Is more than 50% directly owned and controlled by one or more individuals (who are citizens or permanent resident aliens of the United States), other small business concerns (each of which is more than 50% directly owned and controlled by individuals who are citizens or permanent resident aliens of the United States), or any combination of these; and
4. Has, including its affiliates, not more than 500 employees. (For explanation of affiliate, see www.sba.gov/size.)
5. Joint Ventures and limited partnerships are eligible provided the entity created qualifies as a Small Business Concern as defined in this Program Solicitation.

W. Subcontract: A subcontract is any agreement, other than one involving an employer employee relationship, entered into by an awardee of a funding agreement calling for supplies or services for the performance of the original funding agreement. This includes consultants.

X. United States: The fifty states, the territories and possessions of the Federal Government, the Commonwealth of Puerto Rico, the Republic of the Marshall Islands, the Federated States of Micronesia, the Republic of Palau, and the District of Columbia.

- Y. Women-Owned Small Business Concern:** An SBC that is at least 51% owned by one or more women, or in the case of any publicly owned business, at least 51% of the stock is owned by women, and women control the management and daily business operations.

Note: The solicitation CO reserves the right to adjust information currently in this solicitation. If needed, changes will be sent to all eligible Phase I companies.

VII. NOTICE OF OTHER CONTRACTUAL REQUIREMENTS

At contract award, firms shall make certain legal commitments through Government contract clause or article acceptance. The following outline illustrates required Federal Acquisition Regulations (FAR)- based or Other Transactions provisions. The list is not complete, nor does it include full clause/article text. Complete general provision language is available by request prior to award. Examples of general provisions:

- A. Standards of Work.** Work performed under the contract must conform to high professional standards.
- B. Inspection.** Work performed under the contract is subject to Government inspection and evaluation at all reasonable times.
- C. Examination of Records.** The Comptroller General (or a fully authorized representative) shall have the right to examine any directly pertinent records of the contractor involving transactions related to this contract.
- D. Default.** The Government may terminate the contract if the contractor fails to perform the work contracted.
- E. Termination for Convenience.** The contract may be terminated at any time by the Government if it deems termination to be in its best interest, in which case the contractor will be compensated for work performed and for reasonable termination costs.
- F. Disputes.** Any dispute concerning the contract which cannot be resolved by agreement shall be decided by the contracting officer with right of appeal.
- G. Contract Work Hours.** The contractor may not require an employee to work more than eight hours a day or forty hours a week unless the employee is compensated accordingly (that is, receives overtime pay).
- H. Equal Opportunity.** The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin.
- I. Affirmative Action for Veterans.** The contractor will not discriminate against any employee or applicant for employment because he or she is a disabled veteran.
- J. Affirmative Action for Handicapped.** The contractor will not discriminate against any employee or applicant for employment because he or she is physically or mentally handicapped.
- K. Officials Not to Benefit.** No member of or delegate to Congress shall benefit from the contract.
- L. Covenant Against Contingent Fees.** No person or agency has been employed to solicit or secure the contract upon an understanding for compensation except bona fide employees or commercial agencies maintained by the contractor for the purpose of securing business.
- M. Gratuities.** The contract may be terminated by the Government if any gratuities have been offered to any representative of the Government to secure the contract.
- N. Patent Infringement.** The contractor shall report each notice or claim of patent infringement based on the performance of the contract.
- O. Military Security Requirements.** The contractor shall safeguard any classified information associated with the contracted work in accordance with applicable regulations.
- P. American Made Equipment and Products.** When purchasing equipment or a product under

the SBIR funding agreement, purchase only American-made items whenever possible.

Potentially Applicable Federal Acquisition Regulation (FAR) and/or Defense Federal Acquisition Regulation Supplement (DFARS) Clauses:

- Q. Unique Identification (UID).** If your proposal identifies hardware that will be delivered to the government, be aware of the possible requirement for unique item identification in accordance with DFARS 252.211-7003.
- R. Disclosure of Information.** In accordance with FAR 252.204-7000, Government review and approval will be required prior to any dissemination or publication, regardless of medium (e.g., film, tape, document), pertaining to any part of this contract or any program related to this contract except within and between the Contractor and any subcontractors, of unclassified and non-fundamental information developed under this contract or contained in the reports to be furnished pursuant to this contract.
- S. Animal Welfare.** Contracts involving research, development, test, evaluation, or training on vertebrate animals will incorporate DFARS clause 252.235-7002.
- T. Protection of Human Subjects.** Effective 29 July 2009, contracts that include or may include research involving human subjects in accordance with 32 CFR Part 219, DoD Directive 3216.02 and 10 U.S.C. 980, including research that meets exemption criteria under 32 CFR 219.101(b), will incorporate DFARS clause 252.235-7004.34
- U. E-Verify.** Contracts exceeding the simplified acquisition threshold may include the FAR clause 52.222-54 "Employment Eligibility Verification" unless exempted by the conditions listed at FAR 22.1803.
- V. ITAR.** In accordance with DFARS 225.7901-4, Export Control Contract Clauses, the clause found at DFARS 252.225-7048, Export-Controlled Items (June 2013), must be included in all BAAs/solicitations and contracts. Therefore, all awards resulting from this CSO will include DFARS 252.225-7048. Full text of the clause may be found at <https://www.govinfo.gov/content/pkg/CFR-2013-title48-vol3/pdf/CFR-2013-title48-vol3-sec252-225-7048.pdf>.
- W. Cybersecurity.** Any SBC receiving an SBIR/STTR award is required to provide adequate security on all covered contractor information systems. Specific security requirements and cyber incident reporting requirements are listed in DFARS 252.204.7012. Compliance is mandatory.
- X. Safeguarding Covered Defense Information Controls.** As prescribed in DFARS 252.204-7008, for covered contractor information systems that are not part of an information technology service or system operated on behalf of the Government, the SBC represents that it will implement the security requirements specified by National Institute of Standards and Technology (NIST) Special Publication (SP) 800-171, "Protecting Controlled Unclassified Information in Nonfederal Information Systems and Organizations".
- Y. Limitations on the Use or Disclosure of Third-Party Contractor Reported Cyber Incident Information.** As required in DFARS 252.204-7009, the Contractor must agree that certain conditions apply to any information it receives or creates in the performance of a resulting contract that is information obtained from a third-party's reporting of a cyber incident pursuant to DFARS clause 252.204-7012, Safeguarding Covered Defense Information and Cyber Incident Reporting (or derived from such information obtained under that clause).
- Z. Notice of NIST SP 800-171 DoD Assessment Requirements.** As prescribed by DFARS 252.204-7019, in order to be considered for award, the SBC is required to implement NIST SP 800-171. The SBC shall have a current assessment (see 252.204-7020) for each covered contractor information system that is relevant to the offer, contract, task order, or delivery order. The Basic, Medium, and High NIST SP 800-171 DoD Assessments are described in the NIST SP 800-171 DoD Assessment Methodology located at https://www.acq.osd.mil/dpap/pdi/cyber/strategically_assessing_contractor_implementation_of

[_NIST_SP_800-171.html](#). In accordance with DFARS 252.204-7020, the SBC shall provide access to its facilities, systems, and personnel necessary for the Government to conduct a Medium or High NIST SP 800-171 DoD Assessment, as described in NIST SP 800-171 DoD Assessment Methodology, linked above.

AA. Contractor Certification Regarding Provision of Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment. In accordance with DFARS Subpart 204.21, DFARS provisions 252.204-7016, 252.204-7017, and clause 252.204- 7018 are incorporated into this solicitation. This subpart implements section 1656 of the National Defense Authorization Act for Fiscal Year 2018 (Pub. L. 115-91) and section 889(a)(1)(A) of the National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232).

BB. Disclosure of Ownership or Control by a Foreign Government. DFARS 252.209-7002, Disclosure of Ownership or Control by a Foreign Government (JUN 2010), is incorporated into this solicitation. In accordance with DFARS 252.209-7002, any SBC submitting a proposal in response to this solicitation is required to disclose, by completing Attachment 2 to this solicitation, Foreign Ownership or Control Disclosure, any interest a foreign government has in 35 the SBC when that interest constitutes control by a foreign government, as defined in DFARS provision 252.209-7002. If the SBC is a subsidiary, it is also required to disclose any reportable interest a foreign government has in any entity that owns or controls the subsidiary, including reportable interest concerning the SBC's immediate parent, intermediate parents, and the ultimate parent.

VIII. ADDITIONAL REQUIREMENTS

A. Commercialization Results:

1. The awardee shall periodically update the Phase II commercialization results via Company Commercialization Report:
 - a) New products and non-R&D services' sales revenue for the Phase II technology;
 - b) Additional investment from non-SBIR/STTR Program sources in activities furthering the Phase II development and/or commercialization;
 - c) The Phase II technology used in a fielded DoD system or acquisition program, if any, and the system or program;
 - d) Patents resulting from the contractor's SBIR/STTR participation;
 - e) Increase in firm's employees; and
 - f) Completion of an initial public stock offering resulting, in part, from the Phase II project.
 - g) These project updates will be required one year after the Phase II start, at Phase II conclusion, and at submission of a new DoD SBIR/STTR proposal. Firms not submitting new DoD proposals will be requested to provide annual updates after Phase II completion.

B. Copyrights

With the Contracting or Agreements Officer's prior written permission, the awardee may copyright (consistent with appropriate national security considerations, if any) material developed with DoD support. DoD receives a royalty-free license for the Federal Government and requires each publication to contain an appropriate acknowledgment and disclaimer statement.

C. Patents

Small business firms normally may retain the principal worldwide patent rights to any invention developed with Government support. The Government receives a royalty-free license for its use, reserves the right to require the patent holder to license others in certain limited circumstances, and requires that anyone exclusively licensed to sell the invention in the United States must normally manufacture it domestically. To the extent authorized by 35 USC 205, the Government will not make public any information disclosing a Government-supported invention for a period of five years to allow the awardee to pursue a patent. See also Invention Reporting in Section VII.E.

D. Technical Data Rights

Rights in technical data, including software, developed under the terms of contracts awarded under this solicitation generally remain with the contractor. The Government obtains SBIR/STTR data rights in such technical data, beginning at contract award and ending 20 years after time of award. This data shall be marked with the DFARS 252.227-7018, Rights in Noncommercial Technical Data and Computer Software – Small Business Innovation Research (SBIR) Program, restrictive legend. Upon expiration of the 20 year protection period, the Government has government purpose rights in the SBIR data. If a proposer plans to submit assertions IAW DFARS 252.227-7017 or similar award term, those assertions must be identified and restrictions MUST be included in the proposal submission. Award cannot be executed until assertions are approved or mutually agreed-upon during negotiations.

E. Invention Reporting

SBIR awardees must report inventions to the Component within two months of the inventor's report to the awardee. The inventions report may be accomplished by submitting paper documentation, including the Edison Invention Reporting System at www.iedison.gov

F. Final Technical Reports

Content: A final report is required for each award. The reports must contain detail regarding the project objectives, work performed, results obtained, and estimates of technical feasibility. A completed SF 298, "Report Documentation Page," will be used as the report's first page. The Report Documentation Page may be prepared and printed from Defense Technical Information Center's (DTIC's) site at http://www.dtic.mil/dtic/submit/guidance_on_submitting_docs_to_dtic.html.

G. SF 298 Form "Report Documentation Page" Preparation:

1. For unclassified reports, the submitting company should fill in Block 12 (Distribution/ Availability Statement) of the SF 298, "Report Documentation Page," with the following statement: "Distribution authorized to U.S. Government only; Proprietary Information, (Date of Determination). Other requests for this document shall be referred to the Component SBIR Program Office." Note: Data developed under SBIR/STTR awards is subject to DFARS 252.227-7018 or similar protection. DAF will review the awardee's Block 12 information and assign the final distribution statement.
2. For additional distribution statement guidance, visit the DTIC site: http://www.dtic.mil/dtic/pdf/distribution_statements_and_reasons.pdf
3. Block 14 (Abstract), "Report Documentation Page" must include as the first

sentence, "Report developed under SBIR/STTR contract (or OT) for topic [insert topic number]. [Follow with the topic title, if possible.]" The abstract must identify the work's purpose and briefly describe that conducted, the findings/results, and potential applications. The abstract will be published by the DoD. Therefore, **it shall not contain proprietary or classified data.** Type "UU" in Block 17. Block 15 (Subject Terms) 298 must include the term "SBIR Report".

H. Submission

1. All final reports are submitted to the awarding DAF organization IAW the award document. Companies shall not submit Final Reports directly to DTIC.
2. Delivery of the draft final report is normally required within 30 calendar days after technical program completion.
3. Requirements regarding other deliverables' submission will be defined in Sections B and C of contract and Appendix A of Other Transaction for Prototype, award documents. Special submission instructions for CLASSIFIED reports will be defined in the award's delivery schedule.
4. DO NOT E-MAIL classified or controlled unclassified reports, or reports containing SBIR/STTR Data Rights protected under DFARS 252.227-7018.

I. Proprietary Information

1. Information contained in unsuccessful proposals will remain the property of the Applicant. However, the Federal Government may retain copies of all proposals. Public release of information in any proposal submitted will be subject to existing statutory and regulatory requirements. If proprietary information is provided by an Applicant in a proposal, which constitutes a trade secret, commercial or financial information, it will be treated in confidence to the extent permitted by law, provided the proposal is clearly marked by the Applicant as follows:
2. The following legend must appear on the title page of the proposal:
 - a) This proposal contains information that shall not be disclosed outside the Federal Government and shall not be duplicated, used, or disclosed in whole or in part for any purpose other than evaluation of this proposal, unless authorized by law. The Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract if award is made as a result of the submission of this proposal. . . The information subject to these restrictions are contained on all pages of the proposal except for pages *[insert page numbers or other identification of pages that contain no restricted information.]* (End of Legend); and
3. The following legend must appear on each page of the proposal that contains information the Applicant wishes to protect:
 - a) **Use or disclosure of information contained on this sheet is subject to the restriction on the title page of this proposal.**

//SIGNED//

Daniel J. Brewer
SBIR/STTR Contracting Officer
USAF/AFMC/AFRL/RGK

DAF X21.2 SBIR PHASE II INSTRUCTIONS ATTACHMENTS

Attachment 1 – DAF X21.2 SBIR Phase II - Customer Memorandum (Required)

Attachment 2 – DAF X21.2 SBIR Phase II – Funding Commitment Form (Required if proposal includes non-SBIR Government funding or private investment)

Attachment 3 – DAF X21.2 SBIR Phase II – Lifecycle Certifications (Required)

Attachment 4 – DAF X21.2 SBIR Phase II - Air Force SBIR/STTR Environment, Safety and Occupational Health (ESOH) Questionnaire (Required)

Attachment 5 – DAF X21.2 SBIR Phase II – Provisions Applicable to this Solicitation

Attachment 6 – DAF X21.2 SBIR Phase II - DoD SBIR/STTR Programs Disclosure of Offeror's Ownership or Control by a Foreign Government (Required, if applicable)

Attachment 7 - DAF X21.2 SBIR Phase II - Proposal Checklist (Optional)

DAF X21.2 SBIR PHASE II ATTACHMENT 1 - CUSTOMER MEMORANDUM TEMPLATE

Proposals submitted without a Customer Memorandum, with a Customer Memorandum prepared without using the mandatory template, or with a Customer Memorandum lacking the

required signatures will not be considered.



DEPARTMENT OF THE AIR FORCE

<<Air Force Organization (Please use their desired letterhead)>>

<<DATE>>

MEMORANDUM FOR AFRL/RGV (AF Ventures)

References: (a) 15 U.S.C. §638
(b) U.S. Small Business Administration SBIR/STTR Policy Directive (May 2019)
(c) 5 C.F.R. §2635.702(c), Exception (1)

FROM: <<DAF Organization>>

SUBJECT: AFRL/RGV <<X2X.X>> Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) Phase II – DAF Organization Defense Need and Participation Interest in the SBIR/STTR Program under Topic AFX2X.X-CSO1 / AFX2X.X-TCSO1 with <<SBIR/STTR Company>>.

BLUE TEXT IS INFORMATIONAL; REMOVE BEFORE SIGNING!

NOTE – The use of this template is **MANDATORY**; all elements **MUST** BE present and complete. Proposals without completed and signed memoranda accomplished IAW this template will be determined **non-responsive to the solicitation and not considered for award**.

R/R&D/RDT&E SUITABILITY – To ensure efforts submitted are appropriate for the SBIR/STTR Programs, general definitions and R/R&D/RDT&E suitability language may be found in the attachments. This language is not exhaustive but meant only for reference.

To learn more about AF Ventures SBIR/STTR open topics and access additional resources including videos, sample applications, and more, visit <https://afwerx.com/sbirsttr/>.

- 1. Purpose:** This memorandum is executed in furtherance of references (a) and (b) and the applicable Air Force SBIR/STTR solicitation, which constitute authority to promote products, services, and enterprises within the meaning of reference (c). The purpose of this memorandum is to document interest from a Department of the Air Force organization(s) in working with AFWERX and an open topic SBIR/STTR Phase II awardee on a proposed Phase II effort.

2. **Defense Mission Need:** <<DAF Organization>> has a national Defense-related mission need in the area of <<Area of Interest>>, specifically <<describe the mission need and impact>>. We believe technology development under this effort could contribute to future mission need fulfillment. The mission impact of this project on the DAF and DoD will be <<impact statements>>. The main goals of our involvement in this project are:

- (1) <<measurable goal 2>>
- (2) <<measurable goal 1>>
- (3) <<measurable goal 3>>
- (4) Etc.

3. **Project Timeline:** If this SBIR/STTR Phase II proposal is selected and awarded, we expect this project to be executed from <<start month/year>> to <<end month/year>>.

4. **Phase II Funding Commitment from <<DAF Organization>>:** DAF Customer's Government funding commitments are not required for Phase II SBIR/STTR awards. However, a DAF Customer may wish to provide its own funds to supplement SBIR/STTR program funds in order to increase project scope or likelihood of success, according to Reference (b), (Appendix I)(e.)§4(b)(1)(v)(B).

Pursuant to Reference (b), DAF Customer may expend its non-SBIR/STTR funds as supplements to the Phase II award. Additionally, non-SBIR/STTR Federal matching, as well as non-Federal (in certain circumstances found in Reference b), funding may be used for Phase IIB enhancements. DFARS Subpart 204.71, Uniform Contract Line Item Numbering System, contains procedures for applying multiple lines of accounting to a single contract, including modifications.

In order to be included in the contract award, if selected, funding must be provided to AFRL/RGF no later than 30 calendar days after the corresponding solicitation's closing date. To initiate the funds transfer process, email AFRL.SBIR.STTR@us.af.mil. An automated response including the funds transfer request template and further guidance will be received.

If non-SBIR/STTR Federal funding commitments are planned, include this language: If a Phase II award is executed, <<DoD/DAF Organization>> will provide <<amount and type of funds>> non-SBIR/STTR Government funds. <<DAF Customer Finance Office symbol>> concurs with this type funding's use and verifies funds availability.

If funds will be applied directly to Phase II via funds transfer to AFRL/RGF, also include: <<DAF Organization>> will transfer the funds to AFRL/RGF no later than 30 days after the applicable solicitation's closing date. It is understood if these funds do not arrive within the specified period of time, the Phase II may not be awarded. If the Phase I company is not selected for Phase II award, the funds will be returned to the providing DAF organization.

5. **Additional agreement:** Prior to and/or following award, if necessary for project success, <<DAF Organization>> will consult with Air Force SBIR/STTR Legal, Contracting, and Program Office personnel to formalize cooperation in the manner protecting the Government's interests.

(1) Prior to award, determine if the proposed effort will require specific clauses or other special features to accommodate the work to be performed. This could include program elements such as Government-Furnished Equipment/Information (GFE/I), use of Government facilities for testing or demonstration, use of Government-provided licenses, environment considerations, etc.

(2) After award, if assistance is necessary, request guidance to award a Phase III contract or other appropriate agreement for transition to an identified Defense mission need.

6. **Phase III Interest:** Further, if the Phase II project is successful but the technology is not able to fully meet the mission need, <<DAF Organization>> will consider transitioning the resulting innovations to Phase III contracts, subcontracts, or other instruments with other DAF and/or Federal customers. The transition effort will give due regard to the Phase III transition preference for SBIR/STTR funded technologies set forth in references (a) and (b). Phase IIIs are subject to Government organizations' acquisition planning, funds availability, security assessments, and Small Business/Legal/Contracting/other review requirements.
7. **Milestones:** The milestones found in Attachment 1.1, Schedule of Milestones, will provide value as End-Users and/or Customers of the proposed solution.
8. **Stakeholders:** It is understood the successful transition of innovative solutions requires multiple engaged and empowered stakeholders. Responsibilities have been assigned to, and concurrence received from, the following stakeholders relative to the proposed project:

Primary End-User Organization: <<DAF End-User Organization>>

POC: <<Name, Rank, Title, Email>>

The organization which will operationally benefit from the solution.

Primary Customer Organization: <<DAF Customer Organization>>

POC: <<Name, Rank, Title, Email>>

The organization responsible for acquiring the solution on behalf of the End-User.

Phase II Technical Points of Contact (TPOCs):

(TPOCs must be notified of their duties for awareness prior to Memo signature; please keep the format below)

Primary: <<Name; Rank; Organization; Email; Phone>>

Alternate: <<Name; Rank; Organization; Email; Phone>>

TPOCs will work closely with the company during Phase II performance to achieve project success. This includes but is not limited to receiving and accepting/rejecting deliverables; providing performance and progress feedback to the company; working to overcome tactical execution barriers (e.g., base access, waivers/certifications, etc.); and driving the effort towards Phase III transition if successful. Please see the **TPOC Designation Letter** provided in the attachments, this letter will need to be signed

if the proposal is selected for a potential award. **Note:** TPOCs are not required to be in the End-User or Customer organization. Another organization may provide a TPOC with expertise in the technology area. TPOCs **MUST** be Government personnel; support contractors, including SETA contractors, may not be TPOCs. Primary TPOCs **MUST** DAF military or civilian personnel.

Strategic Stakeholders (for data collection purposes):

Name of MAJCOM or HQ function this proposal most directly impacts (required):

Name of PEO or Center this proposal most directly impacts (required):

Staff Functions (as applicable) Providing Concurrence:

Security Office: (required for base access/CACs/classified accesses; see Section 10):

Information Assurance/Cybersecurity: (required for a Risk Management Framework; see Section 11):

Finance: (required for Phase II Government Funding Commitments, if applicable; see Section 4):

Contracting:

Strategy, Integration, and Requirements (A5):

Small Business Office:

Commander:

Legal:

Engineering/SPO/Test:

Public Affairs:

<<Insert additional stakeholders here as necessary>>

- 9. Phase III Transition Strategy:** The program's core objective is transition of SBIR/STTR-funded small business innovations to Phase III. Describe this efforts' transition strategy; address at a minimum Phase III funding strategy, requirements personnel role (if applicable), contract vehicle, and integration plan.

The DAF Customer's Small Business Office should advise the Customer regarding potential contracting, subcontracting, or other opportunities suitable for the SBIR/STTR company.

Additional ideas/resources available in the attachments. Don't use boilerplate attachment language in this section. Tailor the Transition Strategy narrative to the specific organization and solution.

- 10. Security:** The SBIR/STTR Company <<will/will not>> requires <<access to military installations and facilities/Common Access Cards (CACs) to access DoD networks/classified accesses documented via a DD254>> to perform the proposed work under Phase II. If Base Access is required, include the following: <<Customer or TPOC>> confirms if a Phase II is awarded, it will work with applicable visitor centers or

security offices to sponsor the individuals onto the installation when required. If CACs are required, include the following: <<Security Office or Trusted Agent>> confirms if a Phase II is awarded, it will process the documentation required to issue the required CACs. If classified access is required, include the following: <<Security Office>> confirms if a Phase II is awarded, it will work with the DAF customer to draft a DD254, and work with the company to obtain required classified accesses. (AFVentures does not manage security processes, the customer/TPOC are responsible)

11. Cybersecurity: If the proposed solution involves software or information technology and will connect to DoD networks/systems or utilize CUI data, it will likely require an Authorization to Operate (ATO) or Interim Authorization To Test (IATT) granted by an Authorizing Official (AO), or utilize established DevSecOps environments within Platform One. The Air Force Customer or TPOC must consult with the applicable wing-level Cybersecurity or Information Assurance office to begin this process. Fundamental cybersecurity control requirements are outlined in NIST SP 800-171 Rev 1 and DFARS PGI 239.76 - Cloud Computing, serving as the backbone to Air Force cyber and data security. More information can be found at <https://www.safcn.af.mil/Organizations/CISO-Homepage/Small-Business-Cybersecurity-Information/> (AFVentures does not manage ATO or cybersecurity processes, the customer/TPOC are responsible)

- a) The proposed solution <<does/does not>> involve software or IT that will connect to DoD networks/systems or utilize CUI data.
 - 1) If yes, include the following:
<<Information Assurance/Cybersecurity Office>> will work with <<SBIR/STTR Company>> and <<applicable Authorizing Official or Platform One>> to determine whether an ATO or IATT is required, submit required paperwork, and ensure cybersecurity requirements are met.

12. Flight Testing or Utilization of Unmanned Aerial Systems (UAS): The SBIR/STTR company <<will/will not>> require flight testing or UAS utilization to accomplish the proposed Phase II work. There is a blanket waiver for AFRL/DO to “procure Commercial-Off-The-Shelf Unmanned Aerial Systems for the purposes of conducting cyber analysis, signature, system check out, or profile data in a benign or controlled RF environment”. However, contractors proposing UAS purchases will need to work with the Government TPOC to also pursue a “use waiver”. Contract execution is not dependent on use waiver completion. But it is important to start the process as early as possible, as completion could impact efforts’ milestone schedules.

13. Conclusion and Signatures. Please contact the individuals below with questions or concerns. Certain ranks/grades for signatories are not required to sign. However, the individuals should be in positions to speak for their organizations, e.g., individuals must understand and exert influence over operational needs, formal requirements, or funding. **Customer Memoranda without two signatures will NOT be accepted.** Rarely, the End-User and Customer will be the same organization/individual. The organization/individual must sign **TWICE**.

a. AF End-User Suitability. Briefly describe the AF End-User signatory’s appropriateness for this effort.

b. AF Customer Suitability. Briefly describe the AF Customer signatory’s appropriateness for this effort.

(Handwritten/Digital Signature)

DAF CUSTOMER

FIRST MI LAST, Rank/Grade, USAF

(Handwritten/Digital Signature)

DAF End-User

FIRST MI LAST, Rank/Grade, USAF

Attachment 1a: Schedule of Milestones (required)

Attachment 1b: Non-Proprietary Work Plan (required)

Attachment 1c: TPOC Designation Letter (informational; **do not** include in the signed memo)

Attachment 1d: Phase III Transition Resources (**do not** include in signed memo)

Attachment 1e: SBIR/STTR Definitions and Suitability Resources (**do not** include in signed memo)

ATTACHMENT 1a - SCHEDULE OF MILESTONES

SBIR/STTR funds will not exceed \$750,000.00

The below chart should detail the proposed milestone list. Milestones will correspond to a measurable event's completion, e.g., baseline execution plan, test plan, prototype production or a component thereof, final report, etc. Status reports shall not be milestones. The milestone description should indicate demonstrated completion. Associated milestone payments must reflect comprehensive completion costs.

<u>TASK</u> <i>Max 15 milestones.</i>	<u>EXPECTED DELIVERY (MONTH AFTER CONTRACT AWARD)</u> <i>Please follow the Period of Performance in the solicitation.</i>	<u>DELIVERABLE</u>	<u>ACCEPTANCE CRITERIA</u>	<u>PAYMENT</u> <i>Max SBIR/STTR funds \$1.25M; non-SBIR/STTR Federal funds, which have no max, must be identified. Do not include Phase III/private funds.</i>
NOTE – All milestones in this table are examples only. (EXAMPLE) 01 – Deliver 5 working prototypes of the Flux Capacitor.	Award + 2 months	Produce, test, and deliver 5 working prototypes of the final design for the Flux Capacitor along with the detailed design package drawings.	The DAF end-user will physically accept the adapted widgets	\$100,000 (DAF Customer 3600)
(EXAMPLE) 02 - Deliver 3 adapted commercial widgets	Award + 4 months	Three adapted widgets will be delivered to the DAF end- user, meeting the	The DAF end-user will physically accept the adapted widgets	\$250,000

		specification s XYZ.		
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ATTACHMENT 1b - NON-PROPRIETARY WORK PLAN

This section allows the Air Force Stakeholders to review the Work Plan before signing the Memorandum, rather than basing signature on proposed milestones only. The Work Plan will be incorporated into the Phase II award document, if selected.

ATTACHMENT 1c - TPOC DESIGNATION LETTER

(Info only; do not include in Memo.)



DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

Date

MEMORANDUM FOR org/office symbol

ATTENTION TPOC name and rank/grade

FROM: AFRL/RGK

711 E Monument Street
Dayton OH 45402

SUBJECT: Designation of AFWERX Technical Point of Contact (TPOC) Duties for Proposal
<<Proposal Number>>, entitled <<Proposal Title>>

Reference: Federal Acquisition Regulations (FAR) 2.101, Definitions
Defense Federal Acquisition Regulations Supplement (DFARS) Part 201.602-2,
Responsibilities

1. IAW the above references, you are hereby designated the Technical Point of Contact (TPOC) for the subject proposal. A contract number will be designated upon award. You will be designated by name in the contract, when awarded, as the TPOC. If for any reason the proposal is determined non- awardable, the AFRL/RGK Contracting Officer (CO) will provide notification.
2. **You are not authorized to discuss performance or any other matter related to the proposed effort until contract execution (i.e. award) is complete.** Award notice will include appropriate POCs, including the CO, for award administration. (The undersigned may not be the permanently assigned CO.) The AFWERX Phase II Program Manager (PM) for this activity is Lt Col Ray Khan. Please use the p2@afwerx.af.mil for all PM-related correspondence.
3. As the designated TPOC, it is your responsibility to monitor the contractor's performance to ensure successful contract completion, including timely contract deliverable submission up to and including the final technical report. Specifically, you will be responsible for the following:

- a. Monitor cost, technical, and schedule performance to identify and promptly inform the Phase II PM and CO of marginal or unsatisfactory performance; contractor's failure to meet delivery schedules; or any non-compliance with contract requirements. As the TPOC, you are not authorized to make commitments or changes affecting price, quality, quantity, delivery schedule/period of performance, scope of work, place of performance, or other terms and conditions of the contract/award, and may be personally liable for unauthorized acts. The CO is the only individual authorized to obligate Government funds or execute contract changes.
- b. Ensure contractor personnel performing on-site at Government facilities are briefed by responsible and knowledgeable persons, e.g. the TPOC or facility leadership, on all required training, which may include security, emergency management, or accountability procedures.
- c. Receive and accept contract deliverables. To ensure timely payment is made to the contractor after acceptance, please send an email to p2@afwerx.af.mil using the following format:

EMAIL SUBJECT: Company Name, Contract Number, Deliverable Approval/Rejection

EMAIL BODY:

- Company Name
 - Contract Number
 - Deliverable or Milestone # (e.g., [CLIN 003](#), [ALIN 002](#), [Milestone 0002](#), etc.)
 - Recommendation: Approve/Reject ([select one](#))
 - Approval/Rejection ([select one](#)) Date:
 - Instructions to ([company name](#)): Upon receipt of this email, please submit your invoice for payment of the approved ([deliverable](#)) in WAWF
 - Other relevant information ([optional](#))
- d. Maintain close liaison with the identified Phase II PM and CO, as well as the Administrative CO, if other than AFRL/RGK.
 - e. Work with the contractor, installation, and other local Government organizations to gain required approvals/waivers and/or resolve execution issues including but not limited to security requirements, (e.g. CACs, DD254 coordination), program protection compliance, cybersecurity compliance, flight testing, unmanned aerial systems (UAS) regulations, and safety measures, when required. Coordinate these actions with the Phase II PM using p2@afwerx.af.mil.
 - f. Maintain records, including a copy of the contract and all modifications, unless available electronically; TPOC designation memorandum (this document); correspondence with the contractor; correspondence with the Contracting Officer; records of inspection activities and results; and all other documented actions taken as the TPOC. This information must be made available to the CO upon request. Contact

the CO with any documentation questions.

- g. If unable to perform the assigned TPOC duties, you are responsible for identifying a replacement TPOC. Notify the PM immediately to initiate the transition process. Replacement TPOCs must acknowledge their assumed responsibilities by signing a new version of this memorandum. Your role as TPOC expires upon official re-designation.. At that time, you must ensure all documentation is provided to the newly-designated TPOC.
0. During contract performance:
- . Do not discuss acquisition plans/strategies or provide advance information with potential to give one contractor an advantage over another in forthcoming procurements.
 - a. Do not instruct the contractor how to perform but rather of the contract/award's requirements.
 - b. Do not participate in the contractor hiring/termination processes.
0. It is essential you maintain a well-documented project folder/R&D case file. Each contract/order memorandum for record, other similar records, and other correspondence shall cite the contract number/order number. Copies of documentation and correspondence shall be furnished to the CO and others at the CO's request. Strictly adhere to restrictions regarding contractor proprietary data and business sensitive information. Contracting personnel are available for advice and guidance regarding fulfillment of contract terms.
0. You are required to complete on-line training modules. The training is accessible through Defense Acquisition University, <https://www.dau.edu>, and Air Force myLearning, <https://lms-jets.cce.af.mil/moodle/>. If the courses have been completed or annual recertification is current, the requirements are met. Training-related questions, completion certificates, or signed memorandum of completion should be sent to p2@afwerx.af.mil. Required course numbers:
- ACQ 1010 Fundamentals of Systems Acquisition Management (8 hrs) or ACQ101 - DAU
 - CLC 106 Contracting Officer's Representative with a Mission Focus (3 hrs) - DAU
 - CLC 011 Contracting for the Rest of Us (2 hrs) - DAU
 - U.S. Air Force Annual Ethics Training - C08937 (1 hr) – myLearning
 - Additional training available for SBIR/STTR management and/or program-specific requirements, if specified by program office
0. Standards of Conduct and Conflicts of Interest. You are reminded that Government employment, as a public trust, requires DoD personnel to place loyalty to the country, ethical principles, and law above private gain and other interests. You must comply with DOD 5500.7-R, Joint Ethics Regulation. As a TPOC, you shall read and understand FAR 3.2, Contractor Gratuities to Government Personnel, to ensure official responsibilities are performed without actions which might result in, or reasonably be expected to create the appearance of, conduct prejudicial to the Government. You are required to avoid being placed in positions from which conflicts of interest might arise or justifiably be suspected.

You are reminded the FAR and DFARS includes direction relating to gratuities. This direction applies not only to you but also to your family members. You are cautioned if any Standards of Conduct are violated, you will be subject to the full range of statutory and regulatory sanctions.

0. Upon award, a dually-signed copy of this designation shall be disseminated. Retain a copy of this designation letter for your official files. Should you have questions regarding this letter of appointment, please contact the Phase II PM and CO, to be identified upon contract execution.
0. By signing this memorandum, you acknowledge you understand, accept, and will abide by the full terms and conditions documented above.

TPOC SIGNATURE BLOCK
(AFWERX)

CO SIGNATURE BLOCK

ATTACHMENT 1d - PHASE III TRANSITION RESOURCES

(Info only; do not include in Memo)

Transition strategies include, but are not limited to, the following:

DAF Customer may consider transitioning the SBIR/STTR technology by pursuing one or more specific strategies, e.g., an acquisition program transition plan, found in *Equipping Warfighter with Small Business Ingenuity: The Air Force SBIR/STTR Phase III Desk Reference* (v. 2.0, JAN 2019). Transition plans may focus on risk reduction, new technology insertion, increased competition, equipment replacement, etc. The *Desk Reference* contains several sample transition strategies. The *Desk Reference* is found at: <https://www.dropbox.com/sh/eczamsk1bxf4dph/AAB5cDrWfd-0KQFDjaeepNXMa?dl=0>

DAF Customer may consider transitioning the SBIR/STTR technology by awarding the company a Phase III contract via the Phase III special acquisition preference and/or through other small business programs such as Section 8(a), HUBZone, WOSB, or SDVOSB. This Phase III contract may be for further development, testing, evaluation, or production/delivery.

DAF Customer may consider transitioning the SBIR/STTR Technology into their acquisition program(s) via stated preference for SBIR/STTR subcontractors in solicitations for contracts, orders, or assistance instruments. Evaluation criteria may be written to provide additional consideration for companies having searched for and entered into sub-agreements with SBIR/STTR Phase I, II, or III awardees whose technologies are pertinent to the solicited effort.

DAF Customer may consider transitioning the SBIR/STTR technology by awarding the SBIR/STTR company, or a team including the SBIR/STTR company, a Phase III assistance instrument or other transaction with or without a follow-on procurement, e.g., grant, cooperative agreement, or other transaction for prototype agreement with or without a follow-on production contract.

DAF Customer may consider transitioning the SBIR/STTR technology by supporting funding and/or other assistance for the SBIR/STTR company under the Defense Production Act (DPA) and/or the Air Force's/other Federal agency's Mentor-Protégé Program (MPP).

ATTACHMENT 1e - SBIR/STTR DEFINITIONS & SUITABILITY RESOURCES

(Info only; do not include in Memo.)

Identifying Research, Development, Testing, and Evaluation (RDT&E) in SBIR/STTR Proposals

The definitions and criteria below govern SBIR/STTR as Research, Development, Test, and Evaluation (RDT&E) programs. These definitions and criteria implement 15 USC 638, the SBA SBIR/STTR Policy Directive (Oct 2020), and DoD Financial Management Regulation (FMR), Vol. 2A, Chapter 1, Section 0102, *Funding Policies* (June 2004, as amended). Subject to programmatic phase conditions, SBIR/STTR awards are made for research, development, test and evaluation (RTD&E) efforts.

Phase I and Phase II Conditions: Consistent with 15 USC 638 and Combined SBIR/STTR Policy Directive (2019, both Phase I and Phase II awards are aimed at furthering “scientific and technical merit and feasibility” of ideas in the proposals. The object of Phase I is to conduct feasibility-related experimental or theoretical research/research and development related to agency’s described broad or narrow requirements, as to determine the scientific and technical merit and feasibility of the proposed effort and the quality of performance of the offeror. The object of Phase II is to continue the research/research and development effort from the completed Phase I (or from prior non-SBIR/STTR research in case of Direct-to-Phase II award). Phase II also includes a Special Phase II Testing and Evaluation authority.

Scientific and Technical Feasibility Determination IAW 15 USC 638(cc): Direct to Phase II awards are conditioned upon the awarding agency’s determination that the offeror’s idea has sufficient scientific and technical feasibility and merit despite the lack of Phase I award.

Research or Research and Development (R/R&D): Any activity that is: (1) A systematic study directed toward greater knowledge or understanding of the subject studied; (2) a systematic study directed specifically toward applying knowledge and innovation to meet a recognized but unmet need; or (3) a systematic application of knowledge and innovation toward the production of useful materials, devices, and systems or methods, including design, development, and improvement of prototypes and new processes to meet specific requirements. The term "research and development (R&D)" is intended broadly to include the work performed under a funding agreement with the government. It includes R&D in all fields, including the physical sciences, engineering, etc. **Research** is systematic study directed toward *fuller scientific knowledge or understanding* of the subject studied. **Development** is systematic use of *the knowledge and understanding gained from research*, for the production of useful materials, devices, systems, or methods, including the design and development of prototypes and processes.

Treatment of Commercial Off-the-Shelf (COTS) and Non-Developmental Items (NDIs):
COTS/NDIs: Items purchased directly from a commercial source that can be utilized **without**

alteration through design and development, or without modification, are classified as **COTS or NDI**. This includes, for example, ready-to-use products, training services, and software licenses for ready-to-use software to satisfy service needs, including Software as a Service (SaaS). **Purchases of COTS and NDIs for use, including the first article and associated first article acceptance testing and related minor adjustments** are not suitable for SBIR/STTR funding. The acquisition of commercial items or NDIs for testing and operational evaluation **that do not require RDT&E engineering, design or integration effort** will not be funded by SBIR/STTR funds. **However, if an end item requires design and development in order to accept the COTS or NDI**, funding for design and development effort could be funded by SBIR/STTR funds. If a COTS or NDI is required for RDT&E test purposes, the cost could be funded by SBIR/STTR funds.

Modified COTS/Modified NDIs: Commercially available items **that must be modified** to satisfy user requirements are classified as "**modified COTS**" or "**modified NDI**" articles. **In this instance, the first article, modification of the first article, and first article testing** could be funded by SBIR/STTR funds. Follow-on purchases will not be funded by SBIR/STTR funds. The number of "**modified**" **first articles** bought with SBIR/STTR funds will not exceed the quantity needed to conduct the RDT&E acceptance tests. **Modification** is technology refreshment that **significantly changes** the performance envelope of the end item. If the commercially available item **is modified and requires testing prior to approval** for service use or inventory it may be funded by SBIR/STTR funds, as all developmental items. In contrast to modification, **continuous technology refreshment** is the intentional, incremental insertion of newer technology to improve reliability, improve maintainability, reduce cost, and/or add minor performance enhancement, typically in conjunction with depot or field level maintenance. The insertion of such technology into end items as part of maintenance is not funded by SBIR/STTR funds.

INSTRUCTIONS TO OFFERORS: *The offeror shall describe its proposed RDT&E effort, i.e., is it research? If so, explain. It is development? Based on the research, what constitutes the development activity?*

Developing COTs or Commercial Product: If adapting a commercial product/process, what is the intended modification to the COTs or commercial product? Explain.

The offeror's proposal must also identify scientific and technical baseline based on relevant literature, and describe the RDT&E effort's advancing this baseline. As part of the Direct to Phase II proposal, the offeror shall provide information sufficiently enable thing agency to make a scientific and technical feasibility and merit determination IAW15 USC 638(cc). The Team discussion shall address qualifications for conducting RDT&E, as well as commercialization.

Tie to Defense Acquisition Program: In furtherance of 15 USC 638(y), the offeror must identify any Defense Acquisition Program to which the proposal is tied, if known. This information will be

used to identify any resulting Phase I or Phase II award in the Federal Procurement Data System (FPDS). If this information is not known, the proposal shall so state.

DAF X21.2 SBIR PHASE II ATTACHMENT 2 - FUNDING COMMITMENT FORM

1. For non-SBIR Government funding commitment:

Government Funding Organization	Government POC Name/E-mail	Funding Amount	Year/Type of Funding, e.g., R&D, O&M, etc.

2. For private funding commitment:

Private Funding Organization	Private POC Name/E-mail	Funding Amount	Type of Funding, e.g., investment, pre-sales

3. Total Government Funds Amount: \$ _____

4. Total Private Fund Amount: \$ _____

5. Total Requested SBIR Funding Amount: \$ _____

6. Government Funding Work Plan Summary:

[INSERT brief statement describing the project portion the Government sponsor will fund, i.e., how does it support the Phase II Work Plan or additional R&D or marketing under the proposed SBIR project?]

7. Private Funding Work Plan Summary:

[INSERT brief statement describing the project portion the investor will fund, i.e., how does it support the Phase II Work Plan or additional R&D or marketing under the proposed SBIR project?]

DAF X21.2 SBIR PHASE II ATTACHMENT 3 - LIFECYCLE & FUNDING AGREEMENT CERTIFICATIONS (Required)

Complete the Lifecycle certifications found at

<https://www.afsbirsttr.af.mil/Portals/60/Pages/Phase%20I-II/SBIR%20Funding%20Certification%20-%20Life%20Cycle%20-%20Oct%202021.pdf>. Include completed certification in the proposal under Volume 5, Other Documents.

Complete the Funding Agreement Certifications found at

<https://www.afsbirsttr.af.mil/Portals/60/documents/SBIR%20Funding%20Certification%20-%20May%202021%20JPM.pdf>. Include completed certification in the proposal under Volume 5, Other Documents.

**DAF X21.2 SBIR PHASE II ATTACHMENT 4 - SBIR/STTR ENVIRONMENT, SAFETY
AND OCCUPATIONAL HEALTH (ESOH) QUESTIONNAIRE**

Complete the questionnaire found at

https://www.afsbirsttr.af.mil/Portals/60/Pages/Overview/Air%20Force%20SBIR_STTR%20Environment%20Safety%20and%20Occupational%20Health_ESOH_Oct%202021_JSH.pdf. Include the completed document in the proposal under Volume 5, Other Documents.

DAF X21.2 SBIR PHASE II ATTACHMENT 5 - PROVISIONS APPLICABLE TO THIS SOLICITATION

All applicable provisions and clauses as referenced in this solicitation are available in full text via:

<https://www.acquisition.gov>

Class Deviations are available via: https://www.acq.osd.mil/dpap/dars/class_deviations.html

FAR CLAUSES/PROVISIONS INCORPORATED BY REFERENCE:

- *52.204-24 Representation Regarding Certain Telecommunications and Video Surveillance Services or Equipment (AUG 2020)
- *52.204-25 Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment (AUG 2020)
- *52.204-26 Covered Telecommunications Equipment or Services-Representation (DEC 2019)
- 52.212-3 Offeror Representations and Certifications - Commercial Products and Commercial Services (NOV 2021)

DFARS CLAUSES/PROVISIONS INCORPORATED BY REFERENCE:

- DFARS 252.209-7002 Disclosure of Ownership or Control by a Foreign Government (JUN 2010)
- DFARS 252.204-7008 COMPLIANCE WITH SAFEGUARDING COVERED DEFENSE INFORMATION CONTROLS (OCT 2016)
- DFARS 252.204-7009 LIMITATIONS ON THE USE OR DISCLOSURE OF THIRD PARTY CONTRACTOR REPORTED CYBER INCIDENT INFORMATION (OCT 2016)
- DFARS 252.204-7012 - SAFEGUARDING COVERED DEFENSE INFORMATION AND CYBER INCIDENT REPORTING (DEC 2019)
- *DFARS 252.204-7016 Covered Defense Telecommunications Equipment or Services - Representation (MAY 2021)
- *DFARS 252.204-7017 Prohibition on the Acquisition of Covered Telecommunications Equipment or Services - Representation (May 2021)
- *DFARS 252.204-7018 Prohibition on the Acquisition of Covered Defense Telecommunications Equipment or Services (Jan 2021)
- DFARS 252.204-7019 NOTICE OF NIST SP 800-171 DOD ASSESSMENT REQUIREMENTS (NOV 2020)
- DFARS 252.204-7020 NOTICE OF NIST SP 800-171 DOD ASSESSMENT REQUIREMENTS (NOV 2020)

CLASS DEVIATIONS

- 252.225-7974 Class Deviation 2020-O0005 “Prohibition on Contracting with Persons that have Business Operations with the Maduro Regime.
- 252.225-7973 Prohibition on the Procurement of Foreign-Made Unmanned Aircraft Systems—Representation. (DEVIATION 2020-O0015)

*Indicates requirement prior to Contract Award. Failure to provide may result in disqualification of the proposal.

These representations may be completed via Reps and Certs on <https://www.sam.gov>, asserted and submitted in full text via Volume 5, OR submitted in full text to the Procuring Contracting Officer during proposal analysis.

**DAF X21.2 SBIR PHASE II ATTACHMENT 6 - DoD SBIR/STTR PROGRAM DISCLOSURE OF
OFFEROR'S OWNERSHIP OR CONTROL BY A FOREIGN GOVERNMENT**

OMB No. 0704-0187 OMB approval expires August 31, 2024

In accordance with DFARS provision 252.209-7002, an offeror is required to disclose, by completing this form (and adding additional pages, as necessary), any interest a foreign government has in the offeror when that interest constitutes control by a foreign government, as defined in DFARS provision 252.209-7002. If the offeror is a subsidiary, it is also required to disclose any reportable interest a foreign government has in any entity that owns or controls the subsidiary, including reportable interest concerning the offeror's immediate parent, intermediate parents, and the ultimate parent.

DISCLOSURE		
Offeror's Point of Contact for Questions about Disclosure	Name:	
	Phone Number:	
Offeror	Name:	
	Address:	
Entity Controlled by a Foreign Government	Name:	
	Address:	
Description of Foreign Government's Interest in the Offeror		
Foreign Government's Ownership Percentage in Offeror		

Identification of Foreign Government(s) with Ownership or Control	
--	--

DFARS 252.209-7002 Disclosure of Ownership or Control by a Foreign Government (JUN 2010)

(a) Definitions. As used in this provision—

(1) “Effectively owned or controlled” means that a foreign government or any entity controlled by a foreign government has the power, either directly or indirectly, whether exercised or exercisable, to control the election, appointment, or tenure of the Offeror’s officers or a majority of the Offeror’s board of directors by any means, e.g., ownership, contract, or operation of law (or equivalent power for unincorporated organizations).

(2) “Entity controlled by a foreign government”—

(i) Means—

(A) Any domestic or foreign organization or corporation that is effectively owned or controlled by a foreign government; or

(B) Any individual acting on behalf of a foreign government.

(ii) Does not include an organization or corporation that is owned, but is not controlled, either directly or indirectly, by a foreign government if the ownership of that organization or corporation by that foreign government was effective before October 23, 1992.

(3) “Foreign government” includes the state and the government of any country (other than the United States and its outlying areas) as well as any political subdivision, agency, or instrumentality thereof.

(4) “Proscribed information” means—

(i) Top Secret information;

(ii) Communications security (COMSEC) material, excluding controlled cryptographic items when unkeyed or utilized with unclassified keys;

(iii) Restricted Data as defined in the U.S. Atomic Energy Act of 1954, as amended;

(iv) Special Access Program (SAP) information; or

(v) Sensitive Compartmented Information (SCI).

(b) Prohibition on award. No contract under a national security program may be awarded to an entity controlled by a foreign government if that entity requires access to proscribed information to perform the contract, unless the Secretary of Defense or a designee has waived application of 10 U.S.C. 2536(a).

(c) Disclosure. The Offeror shall disclose any interest a foreign government has in the Offeror when that interest constitutes control by a foreign government as defined in this provision. If the Offeror is a subsidiary, it shall also disclose any reportable interest a foreign government has in any entity that owns or controls the subsidiary, including reportable interest concerning the Offeror's immediate parent, intermediate parents, and the ultimate parent. Use separate paper as needed, and provide the information in the following format:

Offeror's Point of Contact for Questions about Disclosure

(Name and Phone Number with Country Code, City Code and Area Code, as applicable)

Name and Address of Offeror

Name and Address of Entity Controlled by a Foreign Government

Description of Interest, Ownership Percentage, and Identification of Foreign Government

(End of provision)

DAF X21.2 SBIR PHASE II ATTACHMENT 7 - Proposal Checklist

This checklist is for informational purposes only to aid offerors in preparing proposals. Offerors are expected to review and prepare proposals based on the instructions contained in the solicitation.

- • Registration
- • DUNS Number
- • Commercial and Government Entity (CAGE) Code
- • DoD SBIR/STTR ID

Volume 1: DoD Proposal Coversheet

- • CAGE, DUNS
- • Proposal Abstract
- • Proposal Certification
- • Contact Information

Volume 2: Technical Volume

- Proposal Coversheet
- Table of Contents
- Glossary
- Technical Summary
 - Commercialization Potential
 - Proposed Adaptation of Non-Defense Commercial Solution
- Phase I Feasibility Study Results
- Phase II Technical Objectives and Key Results
- Phase II Work Plan
 - Task Outline
 - Schedule of Milestones
 - Deliverables
 - Reports
- Key Personnel
 - Key Project Personnel
 - Investors and Partners
 - Non-U.S. Citizens
- Supply Chain Integrity

Volume 3: Cost Volume

- • Direct Labor
- • Overhead
- • G&A
- • Subcontractors/Consultants
- • Other Direct Costs, e.g., materials, equipment, travel
- • Cost Share or Match
- • Profit Rate

Volume 4: Company Commercialization Report (CCR)

Volume 5: Supporting Documents

- Signed Customer Memorandum (required, mandatory template at Attachment

- 1)
 - Letters of Support
 - Coversheet Supplement (as needed)
 - Certification/Eligibility Check (required)
 - Prior, Current, or Pending Support of Similar Proposals or Awards (required)
 - Supplemental Cost Information (required)
 - Key Personnel Resumes (required)
 - DoD Funding Agreement Certifications (signed) (required)
 - Lifecycle Certification (Attachment 3) (required)
 - SBIR/STTR Environment, Safety and Occupational Health (ESOH) (required)
 - One-page 'Sales Pitch' Summary (required)

The following are as required:

- Technical Data Assertions
- Foreign Citizen Table
- Funds Matching Form (mandatory template at Attachment 2)
- Additional Fund Matching Documentation, e.g., private investor letter
- DoD SBIR/STTR Programs Disclosure of Offeror's Ownership or Control by a Foreign Government (form at Attachment 6)
- Additional Facilities/Equipment Information
- Additional Subcontractor/Consultant Information
- Certified Military Critical Technical Data Agreement, DD Form 2345

Volume 6: Fraud, Waste, and Abuse Training

The following are common reasons for which proposals are disqualified. It is not a comprehensive list of potential reasons for disqualification. Offerors shall read ALL solicitation instructions to ensure compliance.

- **System for Award Management is not properly updated at time of submission (Section II.M)**
- **Customer Memorandum missing required number of signatures and/or content (Attachment 1)**
- **Minimum Performance Percentage of Work is not allocated properly (Section II.A.2)**
- **Work as proposed does not meet the definition of Research and Development required for funding (Section VI.P)**
- **Proposal submitted beyond deadline. In the event of technical difficulty contact Component Support (Table 1) immediately.**
- **Proposal submitted exceeds the maximum SBIR funding amount. (Table 2)**

The following items are extremely helpful in expediting award timelines however are not required at the time of proposal submission.

- **Completion of NIST SP-800 171 assessment and submission to SPRS:**
Resource: <https://www.projectspectrum.io/#!/blog/blog-post/c9224e16-57ad-41fa-aa4e-8458a52df971>
- **Familiarization with definitions and procedures required for research determined to include Human Subject Testing**
- **Familiarization with definitions and procedures required for research determined to include**

Flight Testing or UAS.

- **Coordination and familiarization with data/information required for project completion and potential handling requirements End-User and Customer**

Resources: <https://www.dcsa.mil/mc/ctp/cui/> <https://www.dcsa.mil/mc/ctp/tools/>

FOR OFFICIAL USE ONLY
SOURCE SELECTION INFORMATION
SEE FAR 2.101 AND 3.104

THIS IS A COVER SHEET
DO NOT DEFACE

Only individuals who have source selection authorization for the attached document(s) may have access to information contained therein.

SAFEGUARD AT ALL TIME
U.S. GOVERNMENT INFORMATION ATTACHED

FOR OFFICIAL USE ONLY
SOURCE SELECTION INFORMATION
SEE FAR 2.101 AND 3.104

Small Business Innovation Research(SBIR) Program - Proposal Cover Sheet

Disclaimer

Knowingly and willfully making any false, fictitious, or fraudulent statements or representations may be a felony under the Federal Criminal False Statement Act (18 USC Sec 1001), punishable by a fine of up to \$10,000, up to five years in prison, or both.

(b) (3) (A)

Firm Information

Firm Name:	Smarter Reality, LLC
Address:	2121 Hilton Head , Round Rock, TX 78664-1111
Website:	http://www.smarterreality.io
DUNS:	035735699
UEI:	FPH6JB82GPB3
CAGE:	87EY2
SBA SBC Identification Number:	001526979

(b) (3) (A)

(b)

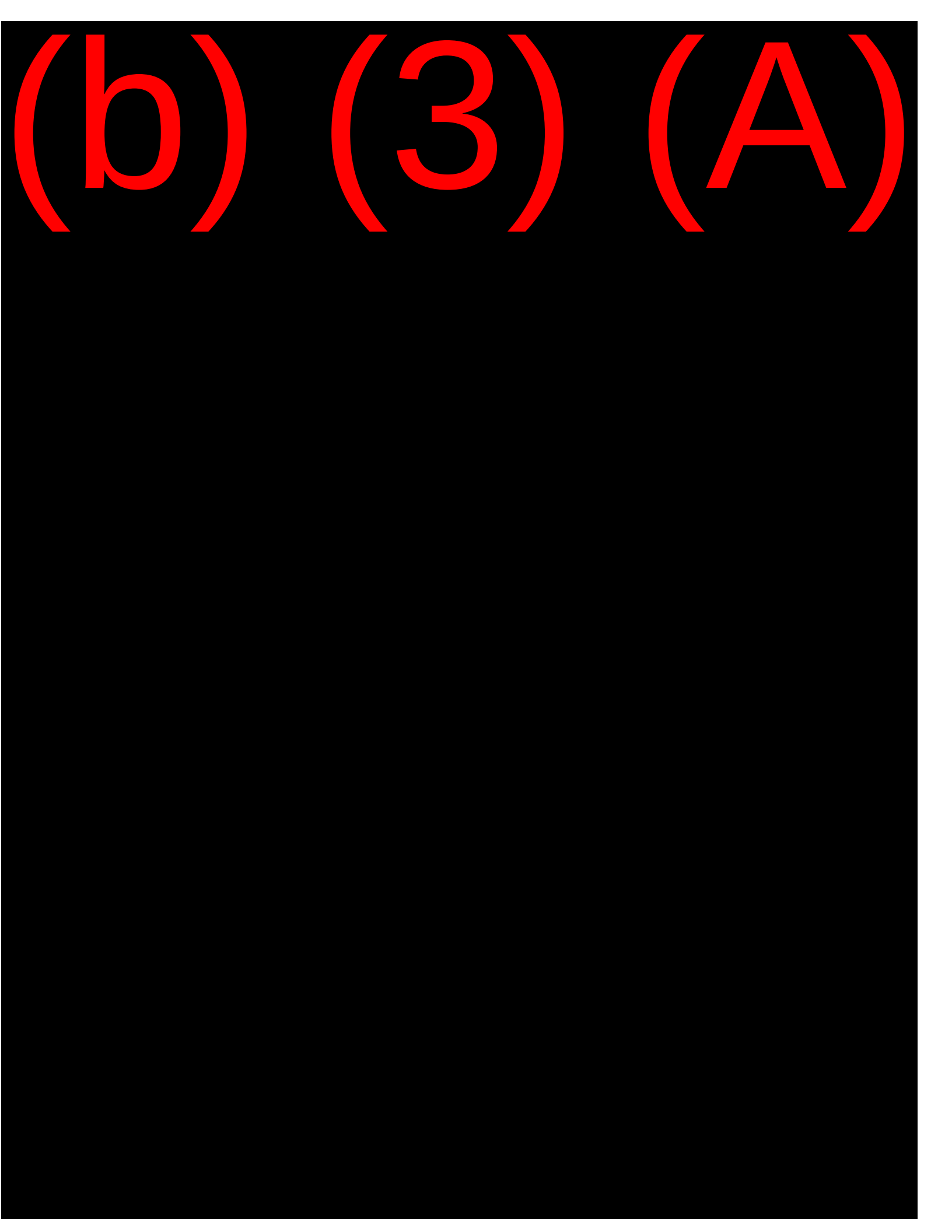
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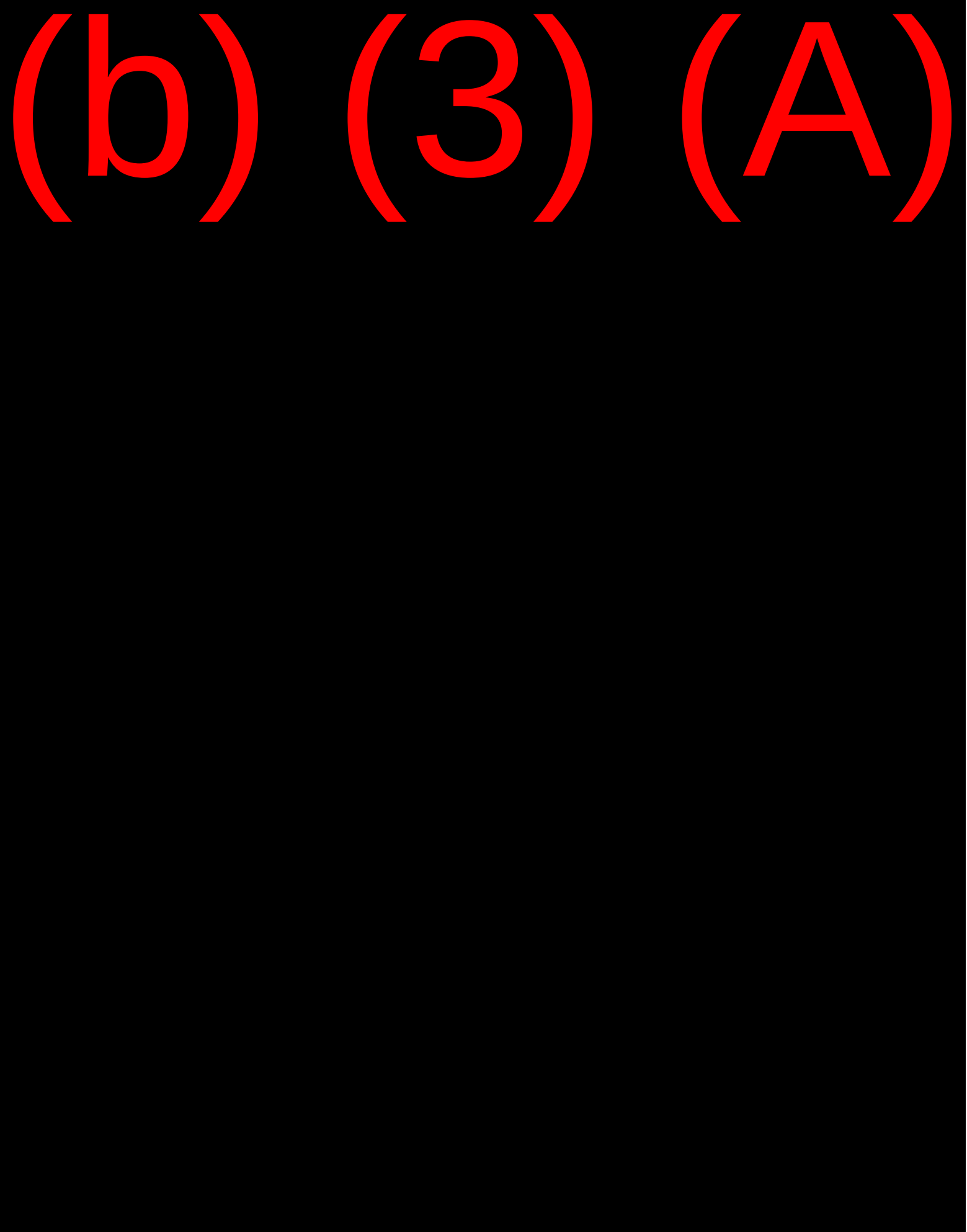
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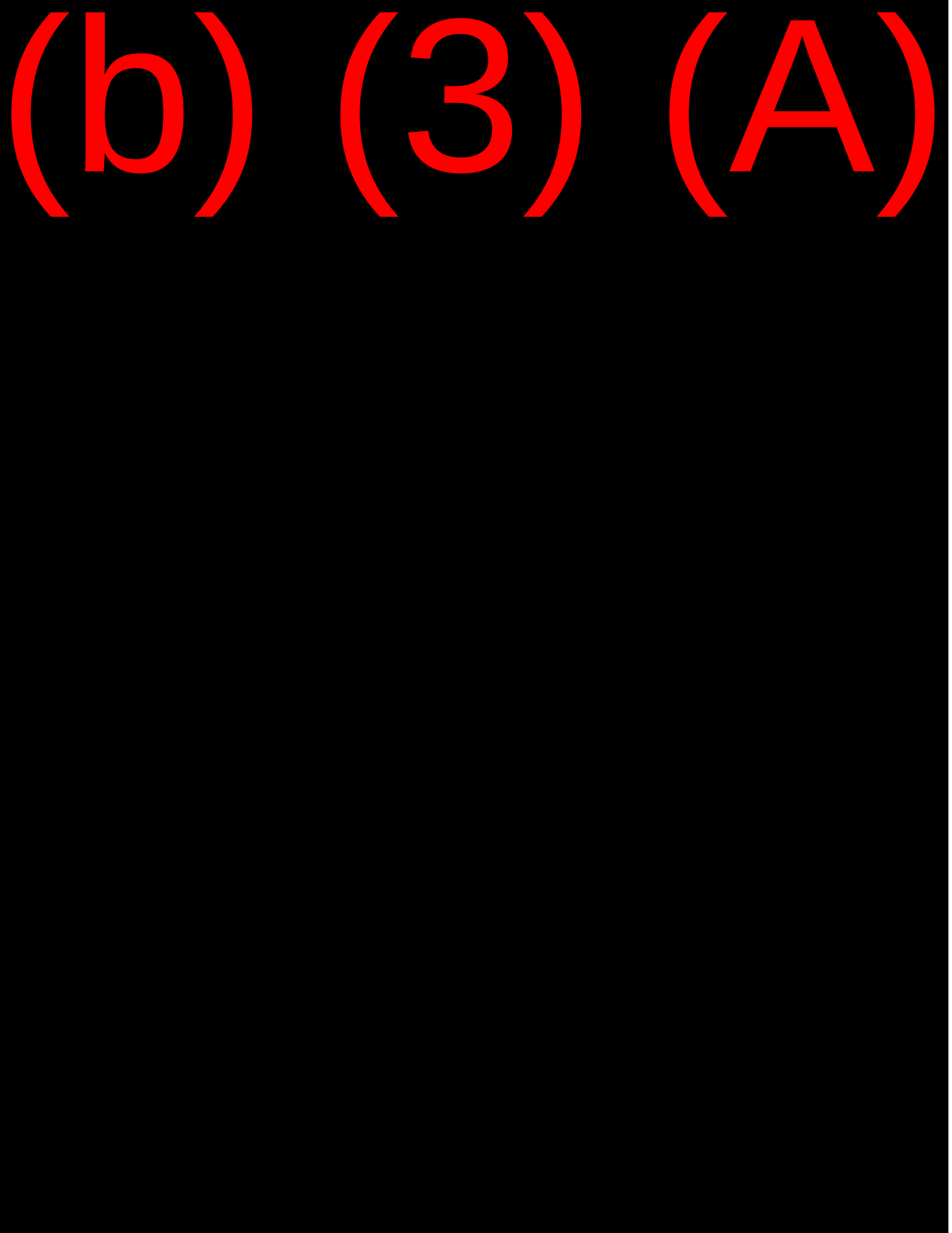
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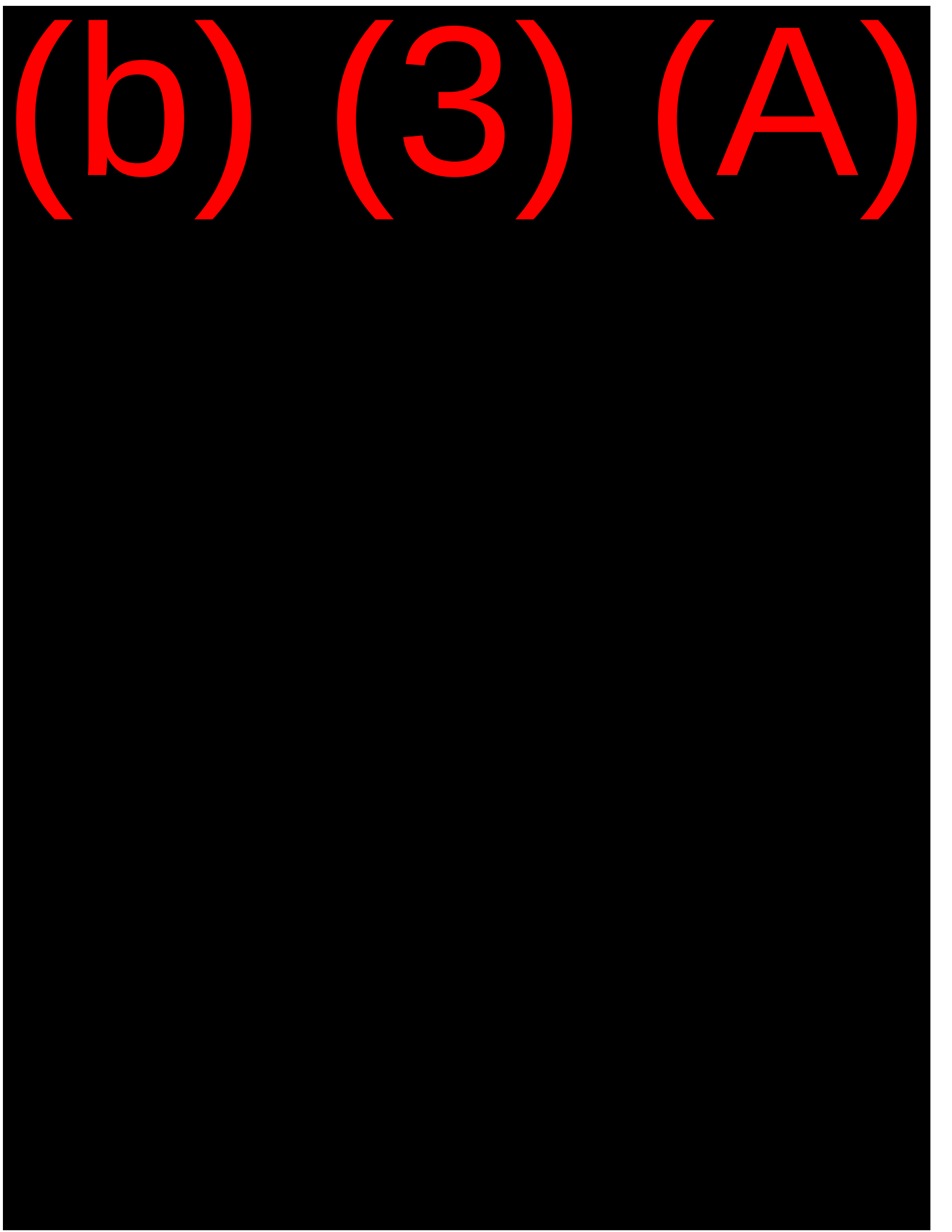
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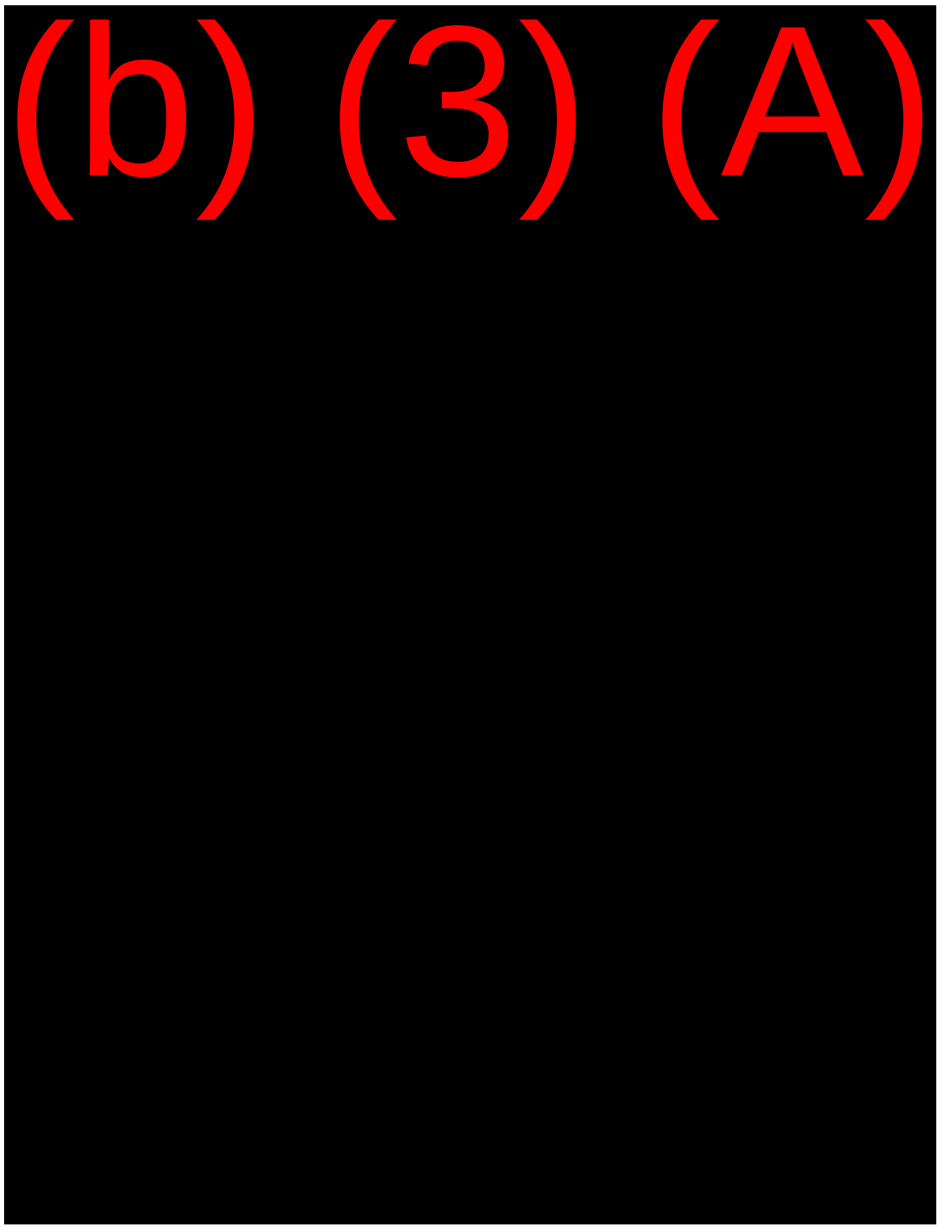


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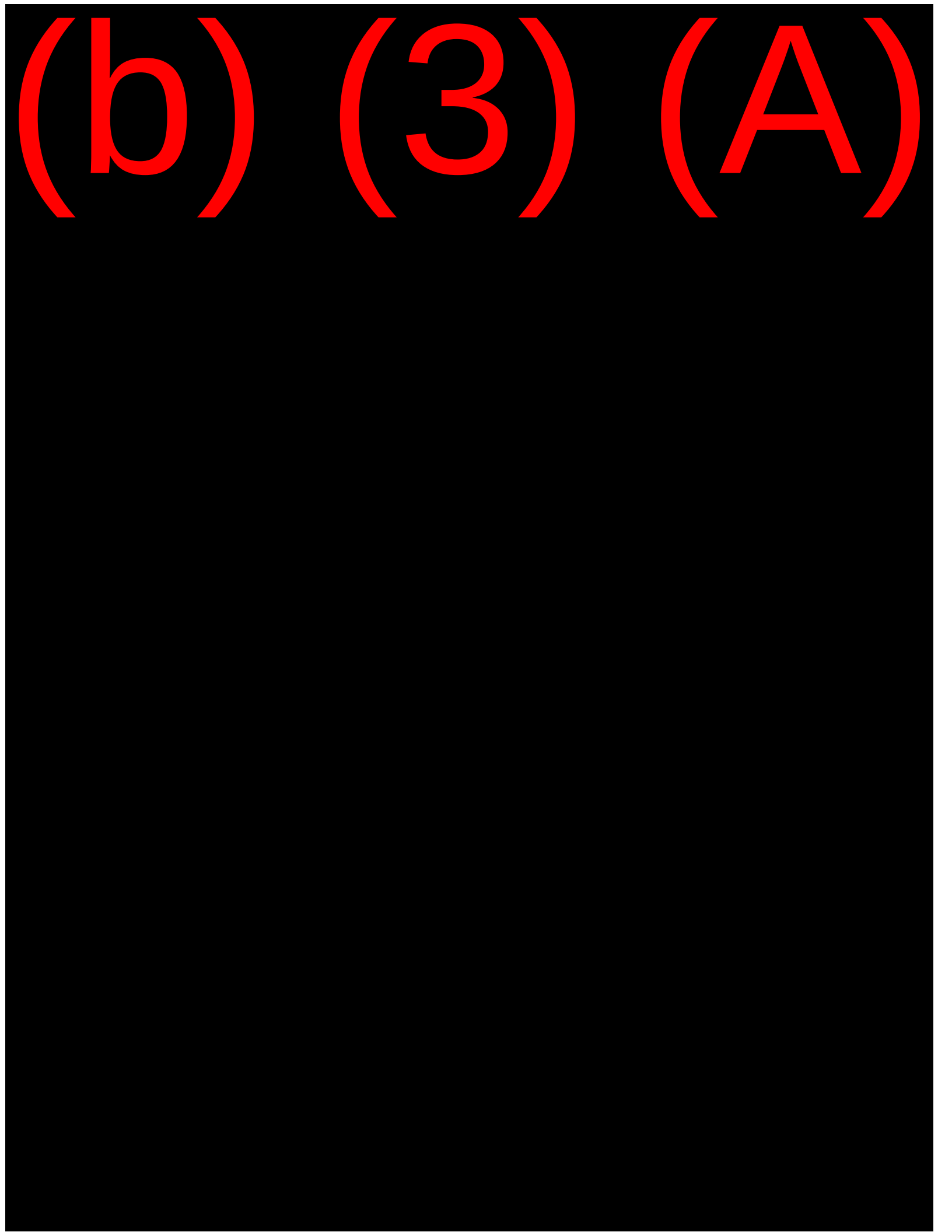


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(b) (3) (A)



(b) (3) (B)



(b)

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(b)

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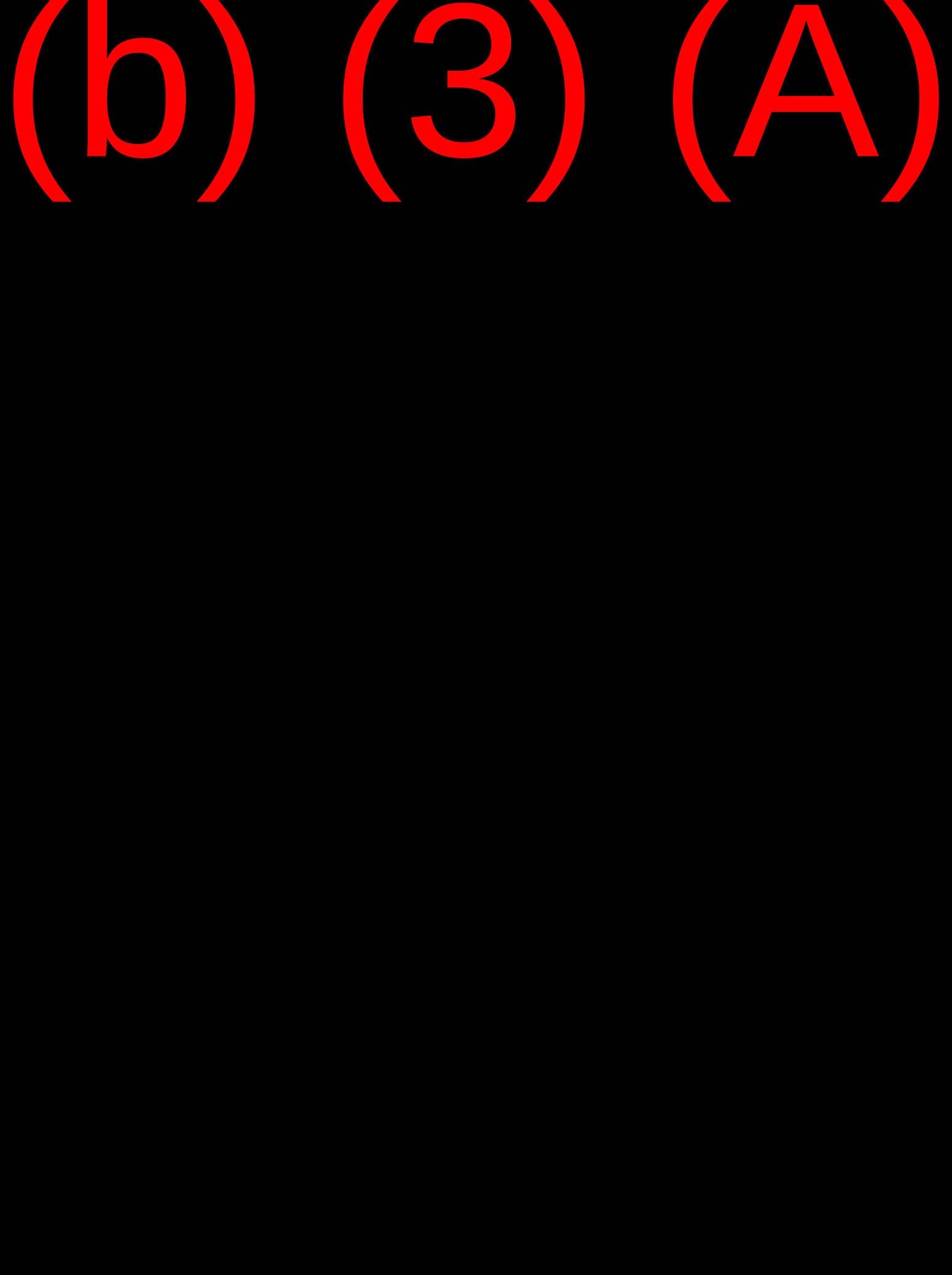
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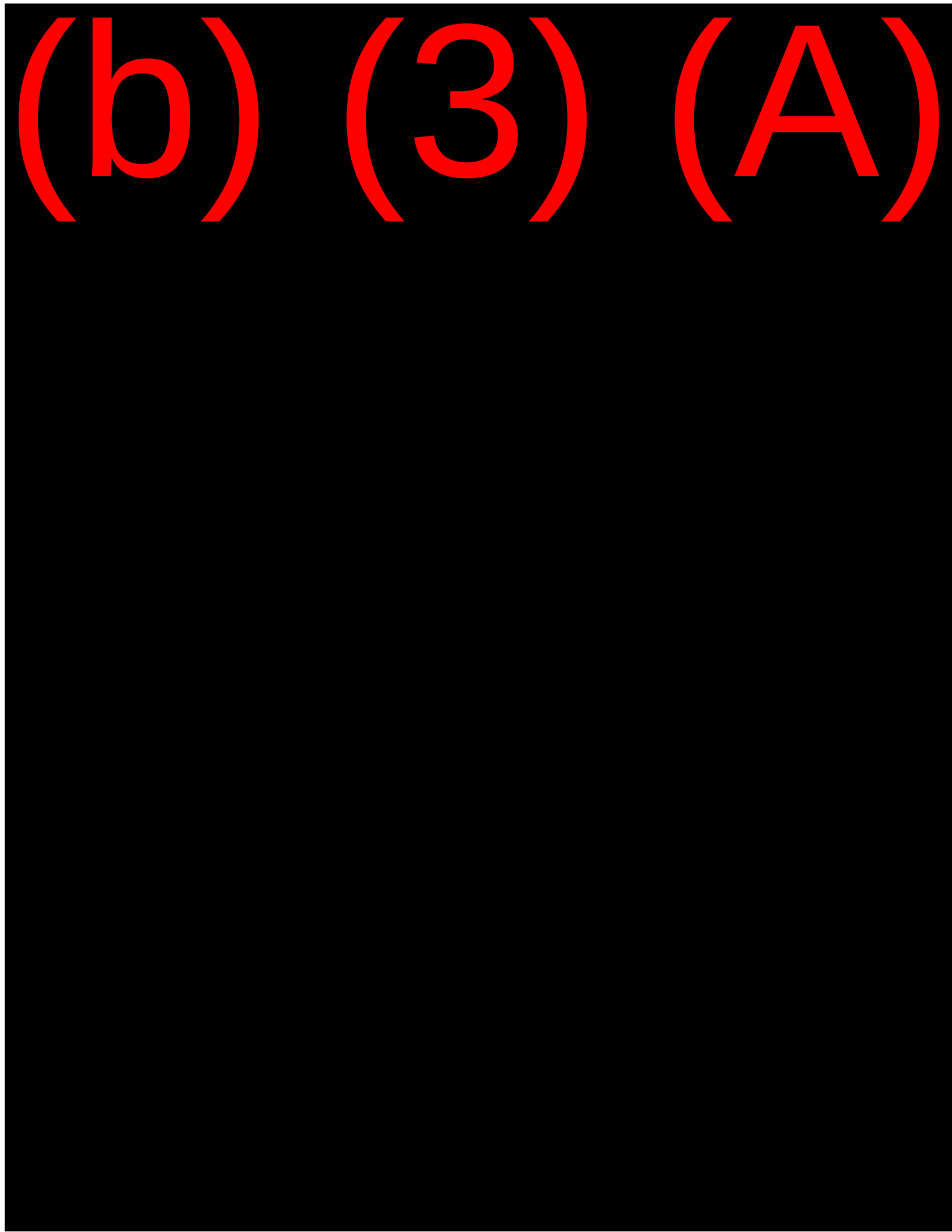
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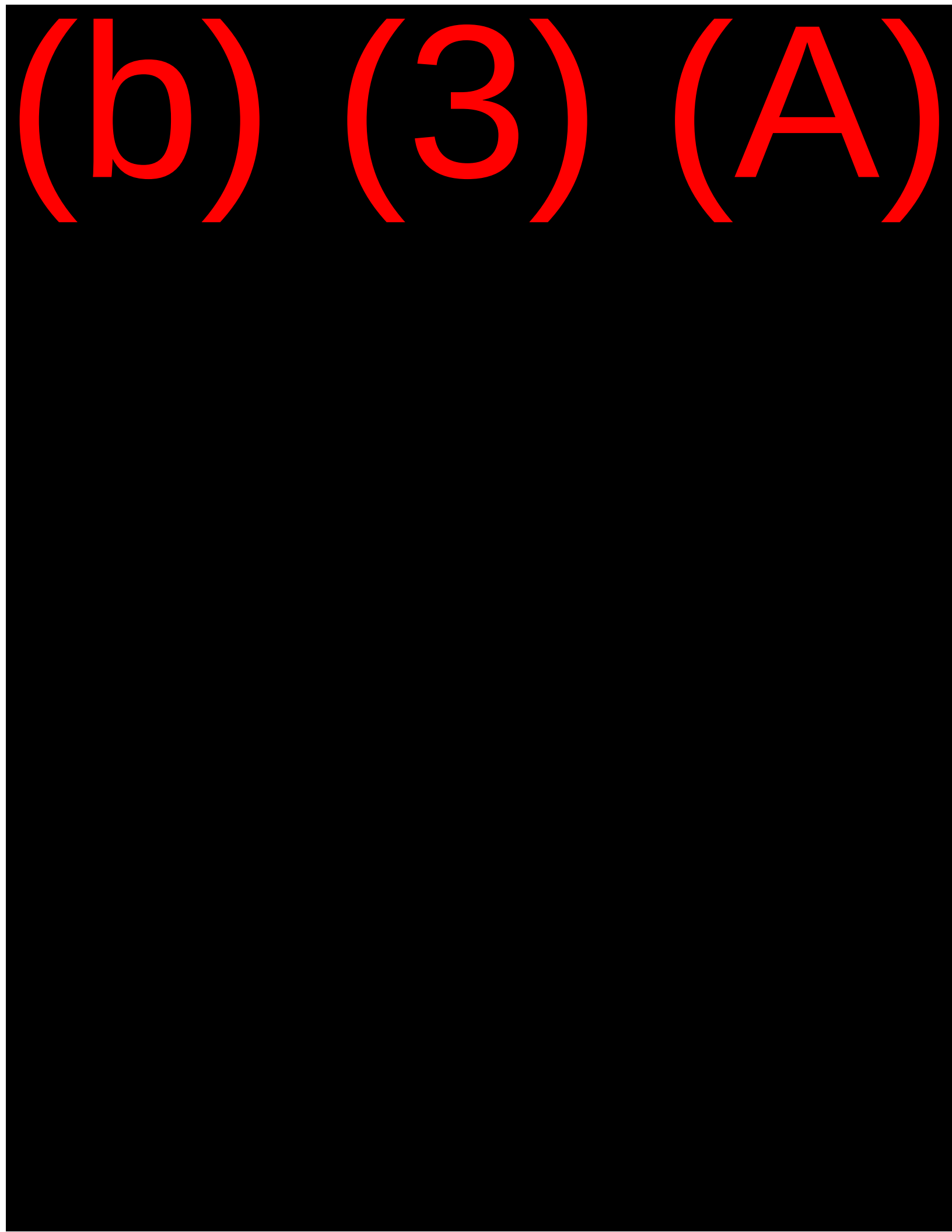
Firm Information

Firm Name	Smarter Reality, LLC
Mail Address	2121 Hilton Head , Round Rock, Texas, 78664
Website Address	http://www.smarterreality.io
Duns	035735699
UEI	FPH6JB82GPB3
Cage	87EY2

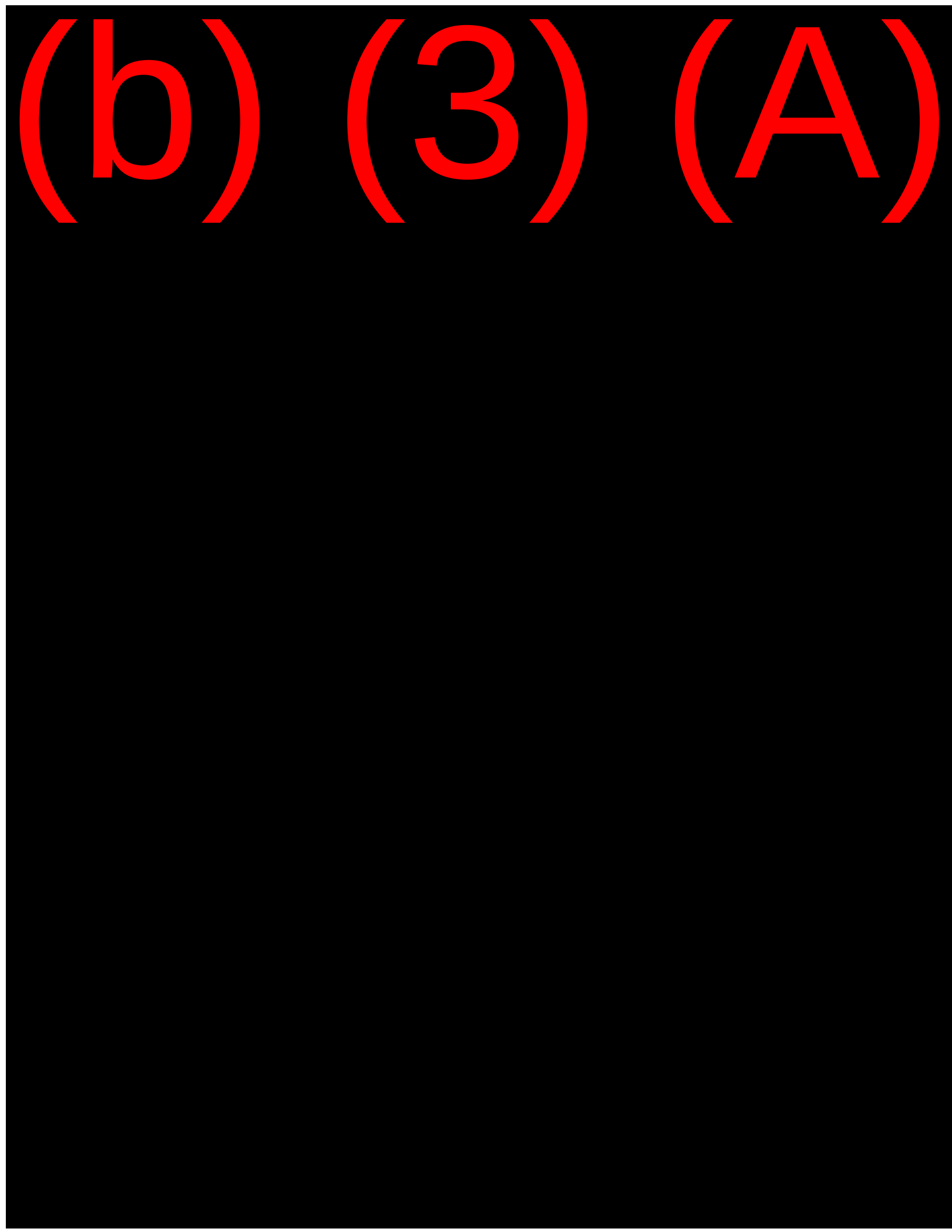
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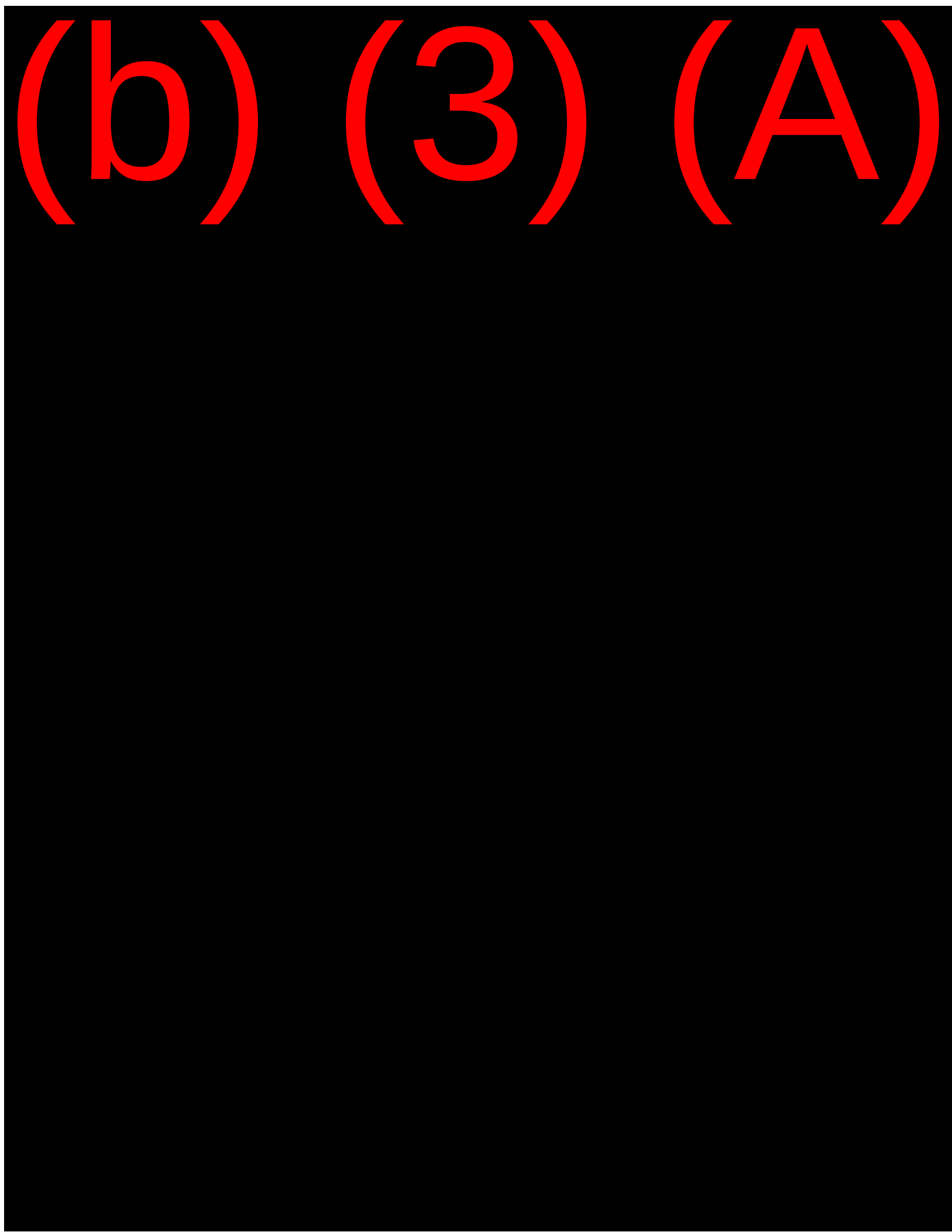
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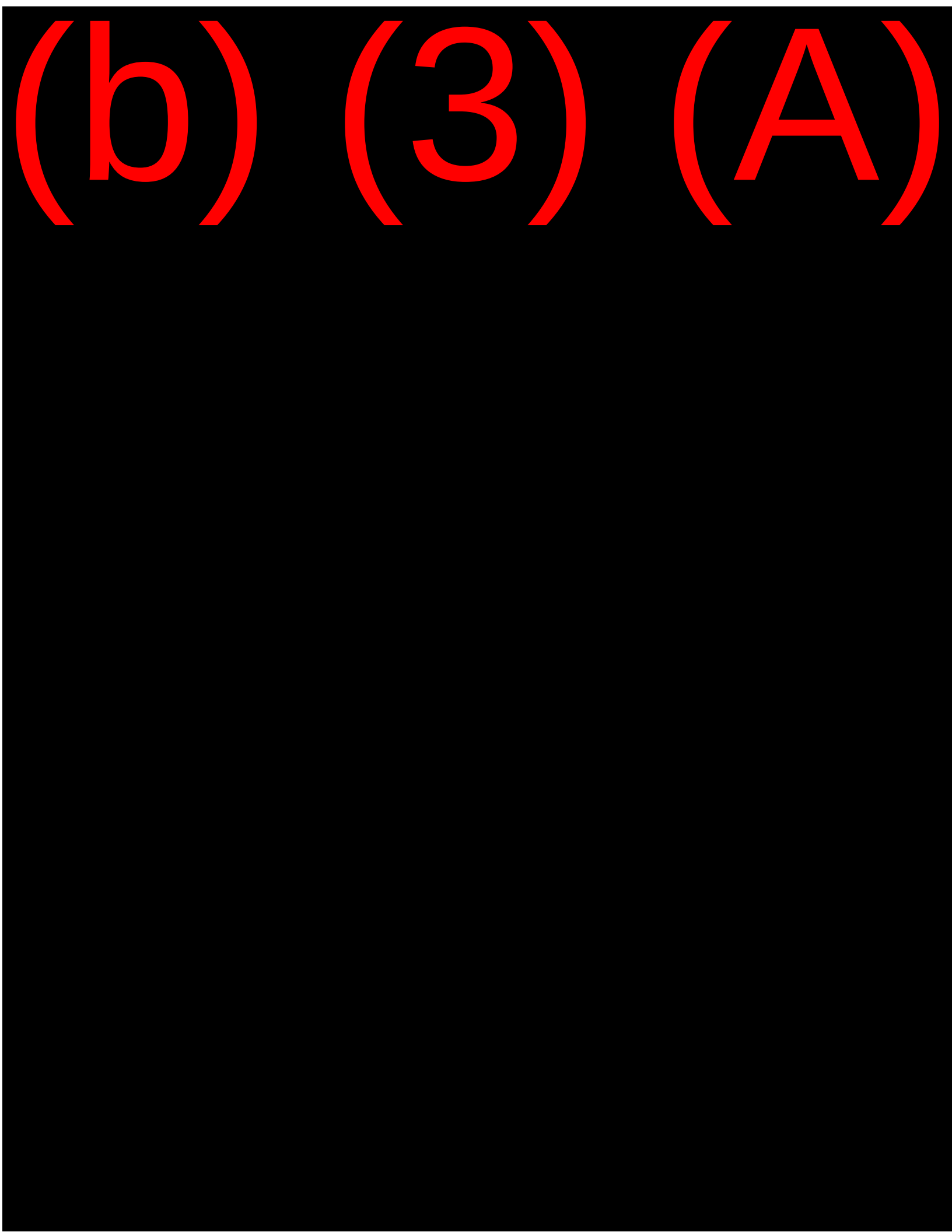
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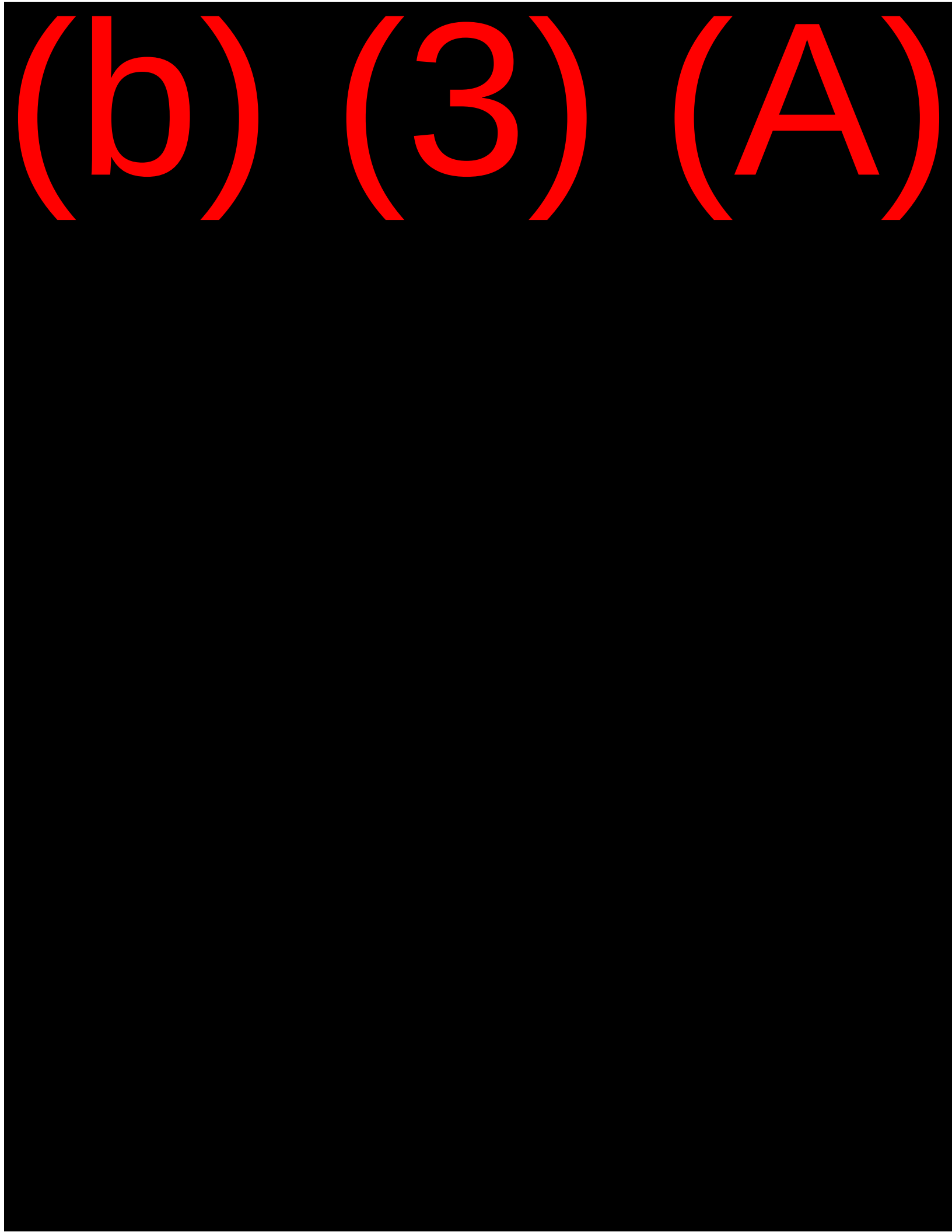
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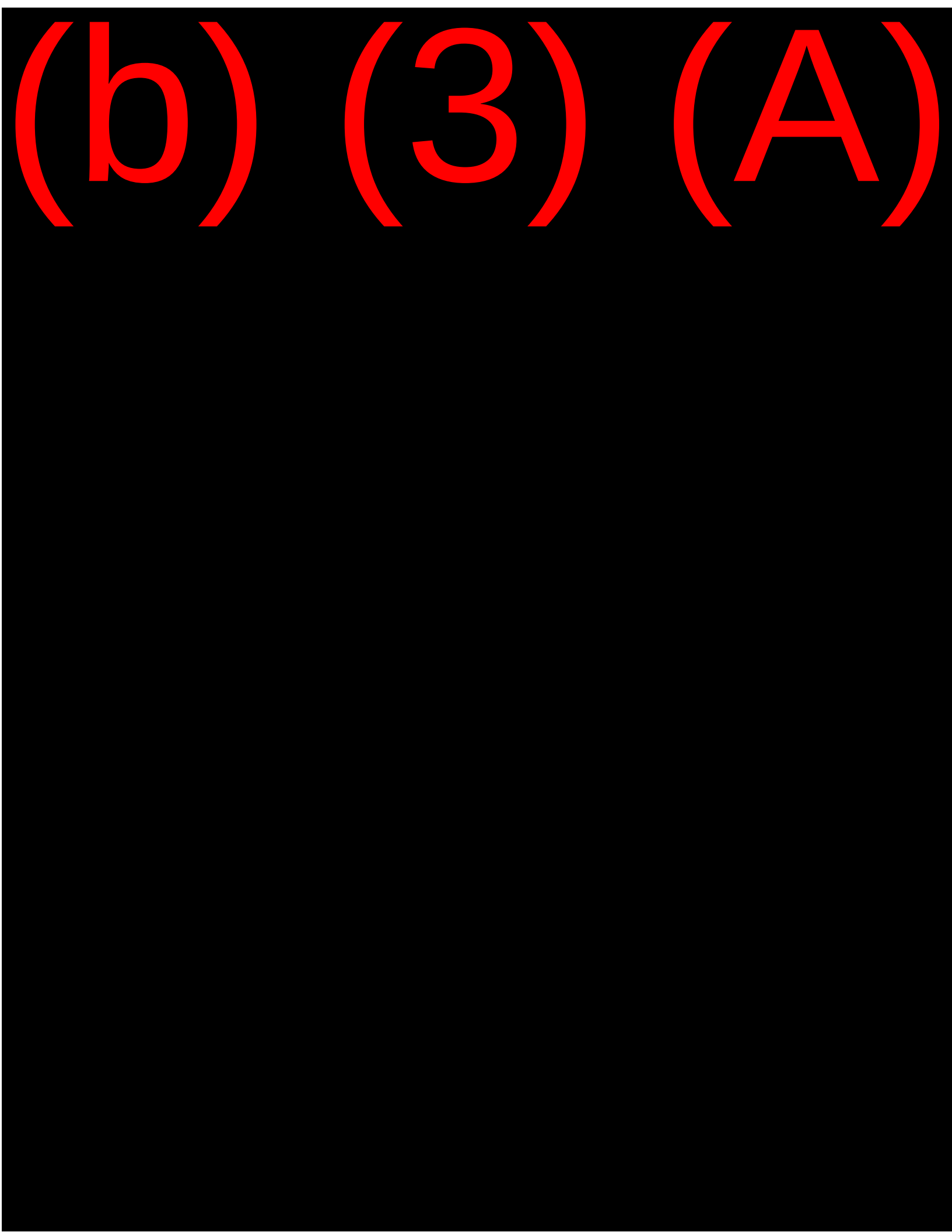
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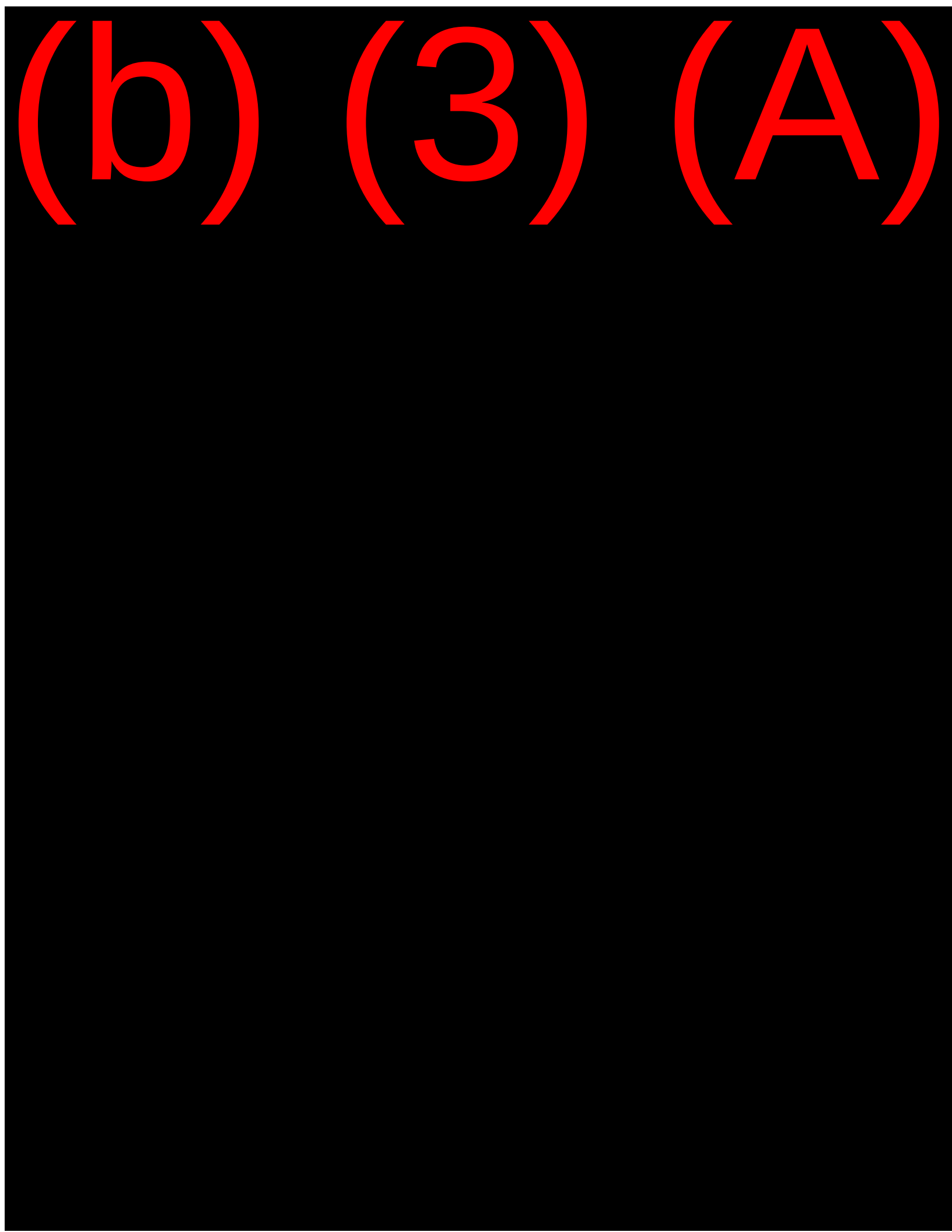
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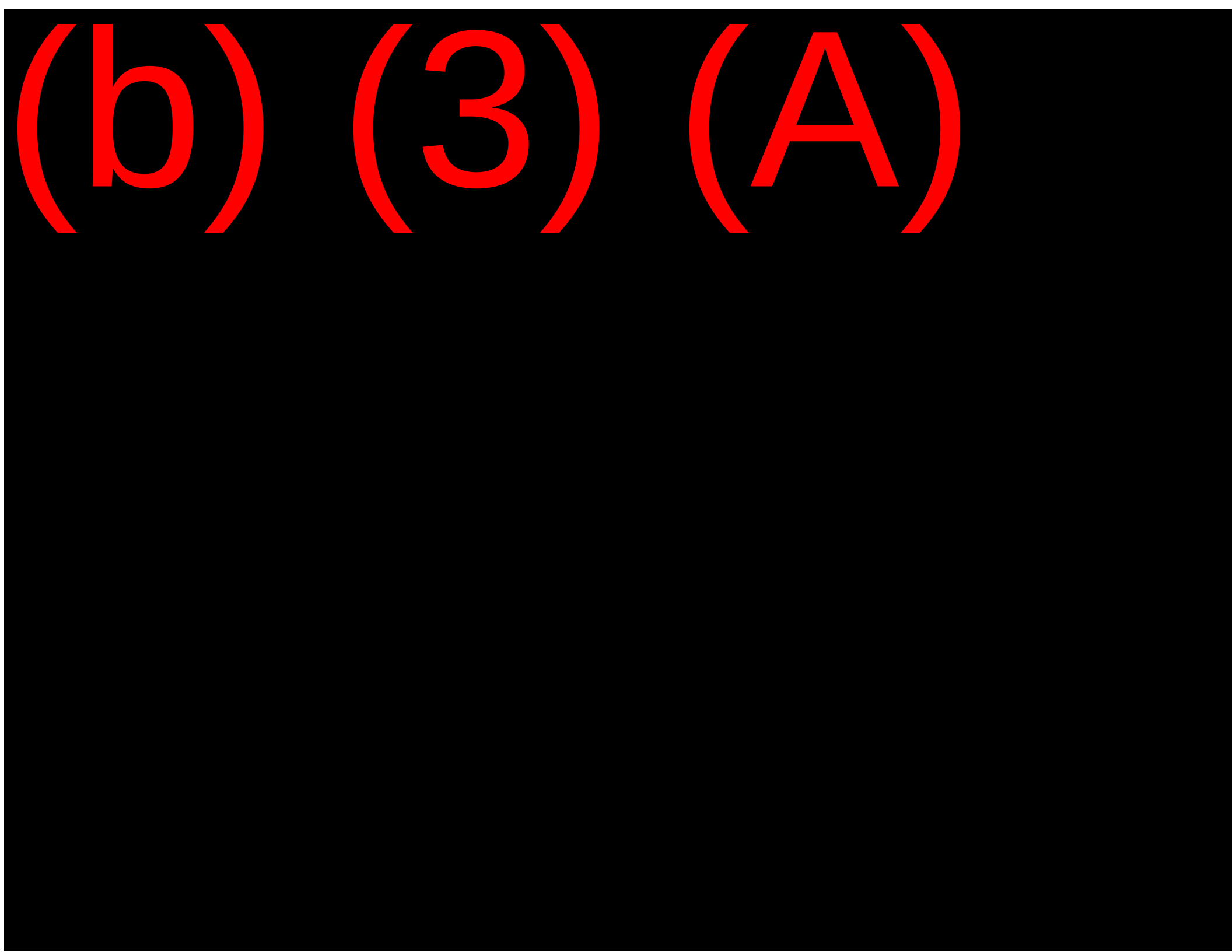
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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE

6/28/2022

PROPOSAL NUMBER: F2-15847
TOPIC NUMBER: AF212-CSO1
COMPANY: Smarter Reality, LLC

Subject: Department of Defense (DoD) X21.2 Small Business Innovation Research (SBIR)
Broad Agency Announcement (BAA), Air Force (AF) Phase II Proposal F2-15847

This letter provides information concerning the subject proposal's outcome as evaluated against the published review criteria. Upon evaluation completion and selection factor application, proposals are categorized as Selected or Not Selected. Your company's proposal has been **Selected** for negotiations and funding.

Contract award is dependent on successful contract negotiations, funds availability, review of company qualifications, and proposal documents. Please ensure company information is up to date, including but not limited to Unique Entity Identifier (UEI), Commercial and Government Entity (CAGE) code, points of contact email/phone, etc. The Air Force team will review company qualifications, including but not limited to company size, ownership, foreign employees, etc., and proposal documents, e.g., Cost Volume, data rights assertions, etc. This review may require the assigned Contracting team to request additional information.

NOTE: Awardees will have the opportunity to discuss proposal review results with the Air Force Technical Point of Contact during the technical kick-off discussion held after award.

Congratulations on tentative selection for a Phase II award. A Government Contracting Officer and/or Contract Specialist will contact your company when execution activities commence. Should further information be desired in the interim, please contact (b) (6) @afwerx.af.mil.

(b) (6)

(b) (6)

Contracting Officer
Air Force SBIR/STTR
AFRL/RGK
AFWERX

SOLICITATION/CONTRACT/ORDER FOR COMMERCIAL ITEMS OFFEROR TO COMPLETE BLOCKS 12, 17, 23, 24, & 30				1. REQUISITION NUMBER F4FBEQ2173A052		PAGE 1 OF 50	
2. CONTRACT NO. FA864922P1122		3. AWARD/EFFECTIVE DATE 20 Jul 2022		4. ORDER NUMBER		5. SOLICITATION NUMBER	
7. FOR SOLICITATION INFORMATION CALL:		a. NAME (b) (6)		b. TELEPHONE NUMBER (No collect calls) (b) (6)		8. OFFER DUE DATE/ LOCAL TIME	
9. ISSUED BY FA8649 USAF RESEARCH LAB AFRL SBRK CP 937 904 9700 2275 D STREET WRIGHT PATTERSON AFB, OH 45433 UNITED STATES (b) (6) Contracting Officer, Email: (b) (6) @us.af.mil Telephone: (b) (6) (b) (6) Contract Specialist, Email: (b) (6) @us.af.mil Telephone: (b) (6)				10. THIS ACQUISITION IS ☐ UNRESTRICTED OR ☒ SET ASIDE: 100 % FOR: ☒ SMALL BUSINESS ☐ WOMEN-OWNED SMALL BUSINESS ☐ HUBZONE SMALL BUSINESS ☐ (WOSB) ELIGIBLE UNDER THE WOMEN-OWNED SMALL BUSINESS PROGRAM NAICS: 541715 ☐ SERVICE-DISABLED VETERAN-OWNED SMALL BUSINESS ☐ EDWOSB ☐ 8 (A) SIZE STANDARD: 500			
11. DELIVERY FOR FOB DESTINATION UNLESS BLOCK IS MARKED ☐ SEE SCHEDULE		12. DISCOUNT TERMS Net Days 30		13a. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700) ☐		13b. RATING	
15. DELIVER TO See Schedule				16. ADMINISTERED BY FA8649 USAF RESEARCH LAB AFRL SBRK CP 937 904 9700 2275 D STREET WRIGHT PATTERSON AFB, OH 45433 UNITED STATES SCD: FA8649			
17a. CONTRACTOR/ OFFEROR Smarter Reality, LLC 2121 Hilton Head Round Rock, TX 78664-6114 UNITED STATES Walter Connersmith, Primary POC, Email: (b) (6) @smarterreality.io Telephone: (b) (6) TELEPHONE NO.		18a. PAYMENT WILL BE MADE BY ACCTG DISB STA NR 503000 DFAS CO JAIM ANALYSIS RECON 3990 E BROAD ST BLDG 21 RM 6C 240 COLUMBUS, OH 43213-1152 UNITED STATES		18b. SUBMIT INVOICES TO ADDRESS SHOWN IN BLOCK 18a UNLESS BLOCK BELOW IS CHECKED ☐ SEE ADDENDUM			
17b. CHECK IF REMITTANCE IS DIFFERENT AND PUT SUCH ADDRESS IN OFFER ☐							
19. ITEM NO.	20. SCHEDULE OF SUPPLIES/SERVICES			21. QUANTITY	22. UNIT	23. UNIT PRICE	24. AMOUNT
	See Schedule						
				(Use Reverse and/or Attach Additional Sheets as Necessary)			
25. ACCOUNTING AND APPROPRIATION DATA See Section G - Contract Administration Data					26. TOTAL AWARD AMOUNT (For Govt. Use Only) USD 749,895.00		
27a. SOLICITATION INCORPORATES BY REFERENCE FAR 52.212-1, 52.212-4. FAR 52.212-3 AND 52.212-5 ARE ATTACHED. ADDENDA ☐ ARE ☐ ARE NOT ATTACHED							
27b. CONTRACT/PURCHASE ORDER INCORPORATES BY REFERENCE FAR 52.212-4. FAR 52.212-5 IS ATTACHED. ADDENDA ☐ ARE ☐ ARE NOT ATTACHED							
28. CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN COPIES TO ISSUING OFFICE. CONTRACTOR AGREES TO FURNISH AND DELIVER ALL ITEMS SET FORTH OR OTHERWISE IDENTIFIED ABOVE AND ON ANY ADDITIONAL SHEETS SUBJECT TO THE TERMS AND CONDITIONS SPECIFIED					29. AWARD OF CONTRACT: REF. ☒ OFFER DATED See Schedule . YOUR OFFER ON SOLICITATION (BLOCK 5), INCLUDING ANY ADDITIONS OR CHANGES WHICH ARE SET FORTH HEREIN, IS ACCEPTED AS TO ITEMS: See Schedule		
30a. SIGNATURE OF OFFEROR/CONTRACTOR				31a. UNITED STATES (b) (6)			
30b. NAME AND TITLE OF SIGNER (Type or print)		30c. DATE SIGNED		31b. NAME OF CONTRACTING OFFICER (Type or print) (b) (6)		31c. DATE SIGNED 20 Jul 2022	

Solicitation/Contract Form

AF Topic #: AF212-CSO1 F2-15847 SBIR Phase II Conflict Resolution Simulator for the USAF Academy

Supplies or Services & Prices or Costs

Additional Information/Notes

Item	Supplies/Service	Qty	Unit	Unit Price	Amount
0001	TASK: 01 - Finalize customer requirements for adaptation DELIVERABLE: Complete specifications for adapted solution and quantitative test goals for prototype in the AF op environment. ACCEPTANCE CRITERIA: AF end-users and AF customers agree that the specifications will meet their needs. Technical Document Number (excludes Technical Manuals): Unit Priced Per Line Item Purchase Requisition Number: F4FBEQ2173A052 Product Service Code: AC32 Pricing Arrangement: Firm Fixed Price CIN: F4FBEQ2173A0520000AA ACRN: AA	1	Lot	USD 166,648.00	Firm Price USD 166,648.00 Funded Amount USD 166,648.00
0002	TASK: 02 - Deliver User Interface DELIVERABLE: Completed functional design for the Simulator with UX/UI ACCEPTANCE CRITERIA: The AF end-users will review and accept the user interface. Technical Document Number (excludes Technical Manuals): Unit Priced Per Line Item Purchase Requisition Number: F4FBEQ2173A052 Product Service Code: AC32 Pricing Arrangement: Firm Fixed Price CIN: F4FBEQ2173A0520000AA ACRN: AA	1	Lot	USD 83,321.00	Firm Price USD 83,321.00 Funded Amount USD 83,321.00
0003	TASK: 03 - Deliver Completed Functional Design for NLP DELIVERABLE: Completed functional design for natural language processing system and initial scenario ACCEPTANCE CRITERIA: The AF end-users will review and accept the content documentation related to the initial scenario. Technical Document Number (excludes Technical Manuals): Unit Price Per Line Item Purchase Requisition Number: F4FBEQ2173A052 Product Service Code: AC32 Pricing Arrangement: Firm Fixed Price CIN: F4FBEQ2173A0520000AA ACRN: AA	1	Lot	USD 83,321.00	Firm Price USD 83,321.00 Funded Amount USD 83,321.00
0004	TASK: 04 - Deliver completed Functional Design for the VR Environment DELIVERABLE: Completed functional design for the virtual reality environment and experience based on the initial scenario. ACCEPTANCE CRITERIA: The AF end-users will review and accept the VR environmental design. Technical Document Number (excludes Technical Manuals): Unit Price Per Line Item	1	Lot	USD 83,321.00	Firm Price USD 83,321.00 Funded Amount USD 83,321.00

	Purchase Requisition Number: F4FBEQ2173A052 Product Service Code: AC32 Pricing Arrangement: Firm Fixed Price CIN: F4FBEQ2173A0520000AA ACRN: AA				
0005	TASK: 05 - Deliver Initial Scenario Customization Tools DELIVERABLE: Prototype scenario implemented in virtual reality with limited NLP functionality. ACCEPTANCE CRITERIA: AF end-users will review and accept the initial scenario outlined in VR. Technical Document Number (excludes Technical Manuals): Unit Priced Per Line Item Purchase Requisition Number: F4FBEQ2173A052 Product Service Code: AC32 Pricing Arrangement: Firm Fixed Price CIN: F4FBEQ2173A0520000AA ACRN: AA	1	Lot	USD 83,321.00	Firm Price USD 83,321.00 Funded Amount USD 83,321.00
0006	TASK: 06 - Deliver Initial Playable Version DELIVERABLE: Initial testable version focused on a single scenario (may not yet include all functionality). Smarter Reality will train up to three AF users. ACCEPTANCE CRITERIA: The initial testable version of the Simulator will allow a user to participate in a single scenario. AF users will verify that training is sufficient. Technical Document Number (excludes Technical Manuals): Unit Priced Per Line Item Purchase Requisition Number: F4FBEQ2173A052 Product Service Code: AC32 Pricing Arrangement: Firm Fixed Price CIN: F4FBEQ2173A0520000AA ACRN: AA	1	Lot	USD 83,321.00	Firm Price USD 83,321.00 Funded Amount USD 83,321.00
0007	TASK: Deliver Prototype Complete in an Alpha State DELIVERABLE: Prototype Simulator completed in an early state and testable on a developer server. ACCEPTANCE CRITERIA: AF users will validate that the Simulator operates in the test environment. Technical Document Number (excludes Technical Manuals): Unit Priced Per Line Item Purchase Requisition Number: F4FBEQ2173A052 Product Service Code: AC32 Pricing Arrangement: Firm Fixed Price CIN: F4FBEQ2173A0520000AA ACRN: AA	1	Lot	USD 83,321.00	Firm Price USD 83,321.00 Funded Amount USD 83,321.00
0008	TASK: 08 - Deliver Final Prototype DELIVERABLE: Final prototype delivered via SAAS (or on stand-alone server). End Users play through the test scenario. ACCEPTANCE CRITERIA: AF users will validate that the Simulator operates as intended and IAW initial requirements. Technical Document Number (excludes Technical Manuals): Unit Priced Per Line Item Purchase Requisition Number: F4FBEQ2173A052 Product Service Code: AC32	1	Lot	USD 83,321.00	Firm Price USD 83,321.00 Funded Amount USD 83,321.00

	Pricing Arrangement: Firm Fixed Price CIN: F4FBEQ2173A0520000AA ACRN: AA				
0009	TASK: 09 - Phase II Summary Report DELIVERABLE: Final report (draft) and summary report (not exceed 700 words; shall include a description of the tech and anticipated applications / benefits for Gov / private sector. ACCEPTANCE CRITERIA: AF end users, AF customers and designated AF SBIR personnel will accept the report. Technical Document Number (excludes Technical Manuals): Unit Priced Per Line Item Product Service Code: AC32 Pricing Arrangement: Firm Fixed Price	1	Lot		
0010	TASK: 10 - Final Report DELIVERABLE: Final report ACCEPTANCE CRITERIA: AF end users, AF customers and designated AF SBIR personnel will accept the report. Technical Document Number (excludes Technical Manuals): Unit Priced Per Line Item Product Service Code: AC32 Pricing Arrangement: Firm Fixed Price	1	Lot		

Description/Specifications/Statement of Work

The Contractor's DoD Small Business Innovation Research (SBIR) / Small Business Technology Transfer (STTR) Technical Proposal F2-15847 Work Plan is found in the Attachments of this contract. Nothing contained in the Contractor's technical proposal shall constitute waiver to any other requirement of this contract. The contract reporting requirements detailed herein supersede the Contractor's proposal. Reports shall not contain proprietary, export-controlled, or classified material unless previous coordination and approval has been provided in writing by the Government Contracting Officer.

The Principal Investigator for this effort is (b) (6). Any requests to revise the Principal Investigator must be directed to the Air Force Procurement Contracting Officer (PCO). The Contractor is not authorized to revise the Principal Investigator without written approval from the Air Force PCO.

Requirements

SBIR Phase II F2-15847 Conflict Resolution Simulator for the USAF Academy

Packaging and Marking

Inspection and Acceptance

FAR Clauses Incorporated by Reference

Number	Title	Effective Date
52.246-4	Inspection of Services-Fixed-Price.	Aug 1996
52.246-9	Inspection of Research and Development (Short Form).	Apr 1984
52.246-16	Responsibility for Supplies.	Apr 1984

Overall Contract Inspection/Acceptance Locations

0001	Inspection and Acceptance Location Both Destination Instructions: Inspection and acceptance will be accomplished by the Technical Point of Contact (TPOC) with WAWF acceptance accomplished by the AFWERX personnel. DoDAAC: FA8649 CountryCode: USA FA8649 USAF SBIR STTR CONTRACTING CP 937-999-1758 711 E MONUMENT ST STE 209 DAYTON, OH 45402-1320 UNITED STATES (b) (6) Email: P2@afwerx.af.mil
0002	Inspection and Acceptance Location Both Destination Instructions: Inspection and acceptance will be accomplished by the Technical Point of Contact (TPOC) with WAWF acceptance accomplished by the AFWERX personnel. DoDAAC: FA8649 CountryCode: USA FA8649 USAF SBIR STTR CONTRACTING CP 937-999-1758 711 E MONUMENT ST STE 209 DAYTON, OH 45402-1320 UNITED STATES (b) (6) Email: P2@afwerx.af.mil
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	(b) (6) Email: P2@afwerx.af.mil
0004	Inspection and Acceptance Location Both Destination Instructions: Inspection and acceptance will be accomplished by the Technical Point of Contact (TPOC) with WAWF acceptance accomplished by the AFWERX personnel. DoDAAC: FA8649 CountryCode: USA FA8649 USAF SBIR STTR CONTRACTING CP 937-999-1758 711 E MONUMENT ST STE 209 DAYTON, OH 45402-1320 UNITED STATES (b) (6) Email: P2@afwerx.af.mil
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0007	Inspection and Acceptance Location Both

	Destination Instructions: Inspection and acceptance will be accomplished by the Technical Point of Contact (TPOC) with WAWF acceptance accomplished by the AFWERX personnel. DoDAAC: FA8649 CountryCode: USA FA8649 USAF SBIR STTR CONTRACTING CP 937-999-1758 711 E MONUMENT ST STE 209 DAYTON, OH 45402-1320 UNITED STATES (b) (6) Email: P2@afwerx.af.mil
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0010	Inspection and Acceptance Location Both Destination Instructions: Inspection and acceptance will be accomplished by the Technical Point of Contact (TPOC) with WAWF acceptance accomplished by the AFWERX personnel. DoDAAC: FA8649 CountryCode: USA FA8649 USAF SBIR STTR CONTRACTING CP 937-999-1758

711 E MONUMENT ST STE 209
DAYTON, OH 45402-1320
UNITED STATES

(b) (6)

Email: P2@afwerx.af.mil

Deliveries or Performance

- (a) Reports shall not contain proprietary, export controlled or classified material, unless previous coordination and approval has been obtained from the Contracting Officer. Deliver all data in accordance with the requirements of this contract and the following:
- (b) FINAL TECHNICAL REPORT
- (1) The final technical report shall be prepared in accordance with "Air Force Research Laboratory, American National Standard Institute/National Information Standards Organization (ANSI/NISO) Standard Z39.18-2005, Scientific and Technical Reports - Preparation, Presentation and Preservation Format Guideline" (including a Standard Form 298). This guideline is available on the NISO website: <https://www.niso.org/publications/z39.18-2005-r2010> and an editable SF298 is available at <https://www.acq.osd.mil/eie/afpmb/docs/dwfp/sf298.pdf>.
- (2) Submission. The contractor shall deliver the unclassified Final Technical Report and the SF 298 by the required due date via email (appropriately marked) to the TPOC identified in the contract, as well as p2@afwerx.af.mil, with a courtesy copy submitted to afrl.sbrk@us.af.mil. The report shall be in one editable text format (i.e. MS Word) file, with the completed SF 298 embedded in the report. Upon receipt of the Draft Final Report, the Government will take no more than thirty (30) calendar days to review, edit and return to the Contractor for correction, if needed. Upon receipt of the written Government comments, the Contractor shall take no more than fifteen (15) calendar days to incorporate all required changes and resubmit the updated Final Report. Concurrent with, or subsequent to the delivery of the final updated technical report, the Contractor shall create a combination (invoice and receiving report) in WAWF in accordance with the clause at 252.232-7006, "Wide Area Workflow Payment Instructions." (Note: DO NOT attach the final report to WAWF documents.) Approval of the combination invoice and receiving report in WAWF constitutes acceptance of the final technical report.
- (3) Acceptance criteria shall be in accordance with the AFRL ANSI Format Guidelines. Reproduction and distribution control of this document is the responsibility of the procuring activity. Submission of the approved final technical report satisfies the DFARS 252.235-7011 requirement to submit final technical reports to DTIC.
- (4) Mark all data delivered with the following statement: "DISTRIBUTION STATEMENT B: Distribution authorized to U.S. Government Agencies Only: Proprietary Information (Contractor inserts date of determination) DFARS SBIR/STTR data rights - DFARS 252.227-7018.
- (5) Instructions for SF 298
- (i) Block 14 (Abstract) must include as the first sentence, "Report developed under SBIR/STTR contract for Topic No. AF212-CS01." The abstract must identify the purpose of the work, and briefly describe the work carried out, the finding or results and the potential applications of the effort. The abstract shall not contain proprietary, export controlled, sensitive or classified material

Overall Contract Delivery Period

Delivery On Or Before
Delivery Date 22 May 2024

Contractor
Destination

Line Item	Delivery Schedule	QTY	Address and POC
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0001	Delivery On Or Before Delivery Date 09 Aug 2022	1 Lot	Place of Performance DoDAAC: FA8649 CountryCode: USA FA8649 USAF SBIR STTR CONTRACTING CP 937-999-1758 711 E MONUMENT ST STE 209 DAYTON, OH 45402-1320 UNITED STATES (b) (6) Email: P2@afwerx.af.mil
0002	Delivery On Or Before Delivery Date 21 Sep 2022	1 Lot	Place of Performance DoDAAC: FA8649 CountryCode: USA FA8649 USAF SBIR STTR CONTRACTING CP 937-999-1758 711 E MONUMENT ST STE 209 DAYTON, OH 45402-1320 UNITED STATES (b) (6) Email: P2@afwerx.af.mil
0003	Delivery On Or Before Delivery Date 30 Nov 2022	1 Lot	Place of Performance DoDAAC: FA8649 CountryCode: USA FA8649 USAF SBIR STTR CONTRACTING CP 937-999-1758 711 E MONUMENT ST STE 209 DAYTON, OH 45402-1320 UNITED STATES (b) (6) Email: P2@afwerx.af.mil
0004	Delivery On Or Before Delivery Date 08 Mar 2023	1 Lot	Place of Performance DoDAAC: FA8649 CountryCode: USA FA8649 USAF SBIR STTR CONTRACTING CP 937-999-1758 711 E MONUMENT ST STE 209 DAYTON, OH 45402-1320 UNITED STATES (b) (6) Email: P2@afwerx.af.mil
0005	Delivery On Or Before Delivery Date 30 May 2023	1 Lot	Place of Performance DoDAAC: FA8649 CountryCode: USA FA8649 USAF SBIR STTR CONTRACTING CP 937-999-1758 711 E MONUMENT ST STE 209 DAYTON, OH 45402-1320 UNITED STATES (b) (6)

			Email: P2@afwerx.af.mil
0006	Delivery On Or Before Delivery Date 25 Aug 2023	1 Lot	Place of Performance DoDAAC: FA8649 CountryCode: USA FA8649 USAF SBIR STTR CONTRACTING CP 937-999-1758 711 E MONUMENT ST STE 209 DAYTON, OH 45402-1320 UNITED STATES (b) (6) Email: P2@afwerx.af.mil
0007	Delivery On Or Before Delivery Date 28 Nov 2023	1 Lot	Place of Performance DoDAAC: FA8649 CountryCode: USA FA8649 USAF SBIR STTR CONTRACTING CP 937-999-1758 711 E MONUMENT ST STE 209 DAYTON, OH 45402-1320 UNITED STATES (b) (6) Email: P2@afwerx.af.mil
0008	Delivery On Or Before Delivery Date 11 Jan 2024	1 Lot	Place of Performance DoDAAC: FA8649 CountryCode: USA FA8649 USAF SBIR STTR CONTRACTING CP 937-999-1758 711 E MONUMENT ST STE 209 DAYTON, OH 45402-1320 UNITED STATES (b) (6) Email: P2@afwerx.af.mil
0009	Delivery On Or Before Delivery Date 22 May 2024	1 Lot	Place of Performance DoDAAC: FA8649 CountryCode: USA FA8649 USAF SBIR STTR CONTRACTING CP 937-999-1758 711 E MONUMENT ST STE 209 DAYTON, OH 45402-1320 UNITED STATES (b) (6) Email: P2@afwerx.af.mil
0010	Delivery On Or Before Delivery Date 22 May 2024	1 Lot	Place of Performance DoDAAC: FA8649 CountryCode: USA FA8649 USAF SBIR STTR CONTRACTING CP 937-999-1758 711 E MONUMENT ST STE 209 DAYTON, OH 45402-1320 UNITED STATES

(b) (6)
Email: P2@afwerx.af.mil

FAR Clauses Incorporated by Reference

Number	Title	Effective Date
52.242-15	Stop-Work Order.	Aug 1989
52.242-17	Government Delay of Work.	Apr 1984
52.247-34	F.o.b. Destination.	Nov 1991

Contract Administration Data

ACRN	Line of Accounting	Amount
AA	5713620 HM1 RLSB 663005 60024A 82100 C5502S 503000 F03000 CSN:EAV841 ALD:AA FSR:028229 PSR:170479 DSR:283157 CIN:F4FBEQ2173A0520000AA	USD 749,895.00

ACRN	CLIN/SLIN/ELIN	CIN	Amount
AA	0001	F4FBEQ2173A0520000AA	USD 166,648.00
	0002	F4FBEQ2173A0520000AA	USD 83,321.00
	0003	F4FBEQ2173A0520000AA	USD 83,321.00
	0004	F4FBEQ2173A0520000AA	USD 83,321.00
	0005	F4FBEQ2173A0520000AA	USD 83,321.00
	0006	F4FBEQ2173A0520000AA	USD 83,321.00
	0007	F4FBEQ2173A0520000AA	USD 83,321.00
	0008	F4FBEQ2173A0520000AA	USD 83,321.00

DFARS Clauses Incorporated by Reference

Number	Title	Effective Date
252.204-7006	Billing Instructions.	Oct 2005
252.232-7003	Electronic Submission of Payment Requests and Receiving Reports.	Dec 2018

DFARS Clauses Incorporated by Full Text**252.232-7006 Wide Area WorkFlow Payment Instructions. Dec 2018**

As prescribed in 232.7004(b), use the following clause:

WIDE AREA WORKFLOW PAYMENT INSTRUCTIONS (DEC 2018)

(a) *Definitions.* As used in this clause-

"Department of Defense Activity Address Code (DoDAAC)" is a six position code that uniquely identifies a unit, activity, or organization.

"Document type" means the type of payment request or receiving report available for creation in Wide Area WorkFlow (WAWF).

"Local processing office (LPO)" is the office responsible for payment certification when payment certification is done external to the entitlement system.

"Payment request" and "receiving report" are defined in the clause at 252.232-7003, Electronic Submission of Payment Requests and Receiving Reports.

(b) *Electronic invoicing.* The WAWF system provides the method to electronically process vendor payment requests and receiving reports, as authorized by Defense Federal Acquisition Regulation Supplement (DFARS) 252.232-7003, Electronic Submission of Payment Requests and Receiving Reports.

(c) *WAWF access.* To access WAWF, the Contractor shall-

(1) Have a designated electronic business point of contact in the System for Award Management at <https://www.sam.gov>; and

(2) Be registered to use WAWF at <https://wawf.eb.mil/> following the step-by-step procedures for self-registration available at this web site.

(d) *WAWF training.* The Contractor should follow the training instructions of the WAWF Web-Based Training Course and use the Practice Training Site before submitting payment requests through WAWF. Both can be accessed by selecting the "Web Based Training" link on the WAWF home page at <https://wawf.eb.mil/>

(e) *WAWF methods of document submission.* Document submissions may be via web entry, Electronic Data Interchange, or File Transfer Protocol.

(f) *WAWF payment instructions.* The Contractor shall use the following information when submitting payment requests and receiving reports in WAWF for this contract or task or delivery order:

(1) *Document type.* The Contractor shall submit payment requests using the following document type(s):

(i) For cost-type line items, including labor-hour or time-and-materials, submit a cost voucher.

(ii) For fixed price line items-

(A) That require shipment of a deliverable, submit the invoice and receiving report specified by the Contracting Officer.

COMBO

(Contracting Officer: Insert applicable invoice and receiving report document type(s) for fixed price line items that require shipment of a deliverable.)

(B) For services that do not require shipment of a deliverable, submit either the Invoice 2in1, which meets the requirements for the invoice and receiving report, or the applicable invoice and receiving report, as specified by the Contracting Officer.

COMBO

(Contracting Officer: Insert either "Invoice 2in1" or the applicable invoice and receiving report document type(s) for fixed price line items for services.)

(iii) For customary progress payments based on costs incurred, submit a progress payment request.

(iv) For performance based payments, submit a performance based payment request.

(v) For commercial item financing, submit a commercial item financing request.

(2)) Fast Pay requests are only permitted when Federal Acquisition Regulation (FAR) 52.213-1 is included in the contract.

(f) [Note: The Contractor may use a WAWF "combo" document type to create some combinations of invoice and receiving report in one step.]

(3) *Document routing.* The Contractor shall use the information in the Routing Data Table below only to fill in applicable fields in WAWF when creating payment requests and receiving reports in the system.

Routing Data Table*

Field Name in WAWF	Data to be entered in WAWF
Pay Official DoDAAC	<u>F03000</u>
Issue By DoDAAC	<u>FA8649</u>
Admin DoDAAC	<u>FA8649</u>

Inspect By DoDAAC	<u>Use DoDAAC Listed in Inspection and Acceptance</u>
Ship To Code	<u>Use DoDAAC Listed in Inspection and Acceptance</u>
Ship From Code	<u>N/A</u>
Mark For Code	<u>N/A</u>
Service Approver (DoDAAC)	<u>N/A</u>
Service Acceptor (DoDAAC)	<u>Use DoDAAC Listed in Inspection and Acceptance</u>
Accept at Other DoDAAC	<u>N/A</u>
LPO DoDAAC	<u>N/A</u>
DCAA Auditor DoDAAC	<u>N/A</u>
Other DoDAAC(s)	<u>N/A</u>

(*Contracting Officer: Insert applicable DoDAAC information. If multiple ship to/acceptance locations apply, insert "See Schedule" or "Not applicable.")

(**Contracting Officer: If the contract provides for progress payments or performance-based payments, insert the DoDAAC for the contract administration office assigned the functions under FAR 42.302(a)(13).)

(4) *Payment request.* The Contractor shall ensure a payment request includes documentation appropriate to the type of payment request in accordance with the payment clause, contract financing clause, or Federal Acquisition Regulation 52.216-7, Allowable Cost and Payment, as applicable.

(5) *Receiving report.* The Contractor shall ensure a receiving report meets the requirements of DFARS Appendix F.

(g) *WAWF point of contact.*

(1) The Contractor may obtain clarification regarding invoicing in WAWF from the following contracting activity's WAWF point of contact.

N/A

(Contracting Officer: Insert applicable information or "Not applicable.")

(2) Contact the WAWF helpdesk at 866-618-5988, if assistance is needed.

(End of clause)

Special Contract Requirements

1. SMALL BUSINESS INNOVATION RESEARCH (SBIR) OR SMALL BUSINESS TECHNOLOGY TRANSFER (STTR) PHASE I AND PHASE II CONTRACT REQUIREMENTS

The following requirements of the Department of Defense (DoD) solicitation for the Small Business Innovation Research (SBIR) or Small Business Technology Transfer (STTR) program are hereby incorporated into the contract:

(1) Definition. "United States", as used in this requirement, means the fifty states, the territories and possessions of the Federal Government, the Commonwealth of Puerto Rico, the Republic of the Marshall Islands, the Federated States of Micronesia, the Republic of Palau and the District of Columbia.

(2) SBIR/STTR Primary Employment. The primary employment of the Principal Investigator/Project Manager must be with the SBC (or the Research Institution - STTR only) at the time of award and during the conduct of the proposed project. Primary employment means that more than one-half of the Principal Investigator/Project Manager's employment time is spent in the employ of the SBC (or Research Institution - STTR only). This precludes full-time employment with another organization. Changes to the Principal Investigator/Program Manager requires prior approval in writing from the Contracting Officer.

(3) Purchase of American-Made Equipment. It is the sense of Congress that an entity that is awarded a contract under the SBIR/STTR Program of a federal agency under Section 9 of the Small Business Act should, when purchasing any equipment or a product with funds provided through the contract, purchase only American-made equipment and products, to the extent possible in keeping with the overall purposes of that program.

(4) SBIR Phase I and Phase II Performance Requirements for Research and Analytical Work.

(a) For Phase I - a minimum of two-thirds of the research and/or analytical effort must be performed by the proposing Small Business Concern unless otherwise approved in writing by the Funding Agreement officer after consultation with the agency SBIR program manager/coordinator.

(b) For Phase II - a minimum of one-half of the research and/or analytical effort must be performed by the proposing Small Business Concern unless otherwise approved in writing by the Funding Agreement officer after consultation with the agency SBIR program manager/coordinator.

(5) STTR Phase I and Phase II Performance Requirements for Research and Analytical Work.

(a) For both Phase I and Phase II, not less than 40 percent of the R/R&D work must be performed by the Small Business Concern, and not less than 30 percent of the R/R&D work must be performed by a partnering Research Institution, as defined in this Program Solicitation.

(b) The small business must negotiate a written agreement with the research institution allocating intellectual property rights and rights, if any, to carry out follow-on research, development, or commercialization. The small business must submit this signed agreement and certify with that submission that the agreement is satisfactory to the small business. Small businesses that fail to provide a signed agreement may forfeit their selection.

(6) Location of the work. For both Phase I and Phase II, the R/R&D work must be performed in the United States. However, based on a rare and unique circumstance, the Air Force may approve a particular portion of the R/R&D work to be performed or obtained in a country outside of the United States, for example, if a supply or material or other item or project requirement is not available in the United States. The Funding Agreement officer must approve each such specific condition in writing.

2. ACKNOWLEDGEMENT OF SPONSORSHIP

(A) The contractor agrees that in the release of information relating to this contract such release shall include a statement to the effect that the project or effort depicted was or is sponsored by the Air Force Research Laboratory (AFRL).

(B) For the purpose of this requirement, "information" includes but is not limited to material presented in news releases, articles, manuscripts, brochures, advertisements, still and motion pictures, speeches, presentations, meetings, conferences, symposia, etc.

(C) Nothing in the foregoing shall affect compliance with the requirements of the clause (if applicable) of this contract entitled "Security Requirements".

(D) The contractor further agrees to include this requirement in any subcontracts awarded as a result of this contract.

3. PACKAGING AND MARKING.

The Contractor shall comply with following packaging and marking requirements. Shipment(s) overseas or via Government Bill of Lading (GBL) shall comply with the below packaging and marking requirements and additional requirements specified in the Statement of Work (SOW).

(1) Hardware deliverables, if applicable, shall comply with the following Specification Commercial Packaging requirement:

(a) Items shall be packaged in accordance with established commercial practices. Individual shipments exceeding 150 pounds, 108 inches in length, or 130 inches in girth plus length shall be packaged on skidded crates or palletized to allow handling by forklift.

(b) The exterior container shall be marked (readable from 24 inches): "NOT FOR OUTSIDE STORAGE."

(c) Preliminary Hazard List, as described in MIL-STD-822E, task 201, is required upon hardware delivery

(2) Software and report deliverables, if applicable, shall comply with the following Contractor Commercial Packaging requirement:

(a) Items shall be packaged in accordance with the Contractor's commercial best practice to ensure undamaged arrival at destination. Individual shipments exceeding 150 pounds, 108 inches in length, or 130 inches in girth plus length shall be packaged on skidded crates or palletized to allow handling by forklift.

(b) The exterior container shall be marked (readable from 24 inches): "NOT FOR OUTSIDE STORAGE."

4. COMSEC MONITORING

All communications with DoD organizations are subject to Communications Security (COMSEC) review. Contractor personnel will be aware that telecommunications networks are continually subject to interception by unfriendly intelligence organizations. The DoD has authorized the military departments to conduct COMSEC monitoring and recording of telephone calls originating from or terminating at DoD organizations. Therefore civilian Contractor personnel are advised that any time they place a call to or receive a call from a USAF organization they are subject to COMSEC procedures. The Contractor will assume the responsibility for ensuring wide and frequent dissemination of the above information to all employees dealing with official DoD information.

5. IMPLEMENTATION OF PATENT RIGHTS CLAUSE

(A) Interim or final Invention Reports (1) listing subject invention(s) and stating that all subject inventions have been disclosed, or (2) stating that there are no such inventions, shall be sent to AFRL.RGK.

PatentsWorkflow@us.af.mil, with a courtesy copy to the identified Air Force Technical Point of Contact (TPOC) within the timeframes specified in the Patent Rights clause of this contract. Please include in the subject line of the e-mail the contract number followed by the words "Invention Reporting." Contractors are highly encouraged to use DD Form 882, Report of Invention and Subcontracts to submit these reports. The DD Form 882 may also be used for the notification of an award of any subcontract(s) for experimental, developmental or research work which contain a "Patent Rights" clause.

(B) All other notifications (e.g., disclosure of each subject invention to the Contracting Officer within 2 months after the inventor discloses it) shall also be sent to the e-mail address in paragraph (A).

(C) This requirement also constitutes the request for the following information for any subject invention for which the contractor has retained ownership, (1) the filing date, (2) serial number and title, (3) a copy of the patent application and (4) patent number and issue date. Submittal shall be to the Patent Administrator e-mail address listed above.

6. CERTIFICATIONS AFTER AWARD

In accordance with 13 CFR 121.705(a), a SBIR/STTR Phase I and II awardee must certify it meets the eligibility requirements set forth in 13 CFR 121.702. The SBA SBIR/STTR Policy Directive, dated 1 OCT 2020 specifically requires certification of the firm's size, ownership, and other requirements of the SBIR/STTR Program. All small business concerns are required to submit certifications at the time of award, which are contained in the small business concern's proposal to the Air Force. Additionally, small business concerns are required to recertify at other times during contract performance, as described below.

(1) PHASE I: SBA SBIR/STTR Policy Directive, Section 8(j)(1), requires certification of compliance with the SBIR/STTR program requirements at the time of final payment or disbursement. Thus, a new certification shall be completed, signed, and submitted with the draft final report. Submit this certification to the Government TPOC, with a copy to sbrk.sprints@us.af.mil.

(2) PHASE II: SBA SBIR/STTR Policy Directive, Section 8(j)(2), requires certification of compliance with the SBIR/STTR program requirements prior to receiving more than 50% of the total award amount and prior to final payment or disbursement. Thus, a new certification shall be completed, signed, and submitted with the milestone report that would place the contract at 50% funding and with the draft final report. See CLIN instructions for additional information regarding submission of Lifecycle Certifications. Submit certifications to the Government TPOC, with a copy to p2@afwerx.af.mil and sbrk.sprints@us.af.mil.

(3) Additionally, SBA SBIR/STTR Policy Directive, Section 8(j)(3), permits the Air Force to request certifications at other points during the life cycle of both Phase I and Phase II contracts, to include at the time of each payment or disbursement.

7. REGARDING ACCESS TO AIR FORCE FACILITIES AND GOVERNMENT INFORMATION TECHNOLOGY NETWORKS

(A) Contractor employees requiring access to USAF bases, AFRL facilities, and/or access to U.S. Government Information Technology (IT) networks in connection with the work on this contract must be U.S. citizens. For the purpose of base and network access, possession of a permanent resident card ("Green Card") does not equate to U.S. citizenship. This requirement does not apply to foreign nationals approved by the U.S. Department of Defense or U.S. State Department under international personnel exchange agreements with foreign governments. Any waivers to this requirement must be granted in writing by the Contracting Officer prior to providing access. The above requirements are in addition to any other contract requirements related to obtaining a Common Access Card (CAC).

(B) For purposes of paragraph (A) above, if an IT network/system does not require AFRL to endorse a

contractor's application to said network/system in order to gain access, the organization operating the IT network/system is responsible for controlling access to its system. If an IT network/system requires an U.S. Government sponsor to endorse the application in order for access to the IT network/system; AFRL will only endorse the following types of applications; consistent with the requirements above:

- (1) Contractor employees who are U.S. citizens performing work under this contract.
- (2) Contractor employees who are non-U.S. citizens and who have been granted a waiver.
- (3) Any additional access restrictions established by the IT network/system owner apply.

8. REGARDING EXPORT CONTROL

The items to be delivered under this contract are being developed for both civil and military applications (reference ITAR, 22 CFR Part 121, Category XI (Military Electronics), Note 1 to Paragraph (a)(7) - sub reference (c). As stated in DFARS 252.225-7048, the Contractor's responsibility to comply with all applicable laws and regulations regarding export-controlled items exists independent of, and is not or limited by, the information provided by this requirement.

9. SAFETY COMPLIANCE

If AFRL owned equipment is used and/or AFRL personnel are exposed to risk during testing and/or AFRL facilities are used for testing, the contractor must provide a test plan that shall be reviewed and approved through AFRL's test management process IAW AFRL Supplement to AFI 91-202. This will include a Safety Review Board (SRB). Failure to comply with these procedures may result in termination of the contract.

10. IMPLEMENTATION OF DISCLOSURE OF INFORMATION

To comply with DFARS 252.204-7000, Disclosure of Information, the Contractor should submit two copies of the information to be released to the Air Force TPOC and Contracting Officer at least 10 days prior to the scheduled release date. The TPOC will follow the same review process as for in-house authors and will provide the Public Affairs (PA) clearance number and date cleared (or denial reason) to the Contractor upon completion of Security and Policy Review (S&PR).

DFARS Clauses Incorporated by Full Text

252.211-7003 Item Unique Identification and Valuation. Mar 2022

As prescribed in 211.274-6(a)(1), use the following clause:

ITEM UNIQUE IDENTIFICATION AND VALUATION (MAR 2022)

(a) *Definitions.* As used in this clause-

"Automatic identification device" means a device, such as a reader or interrogator, used to retrieve data encoded on machine-readable media.

"Concatenated unique item identifier" means-

(1) For items that are serialized within the enterprise identifier, the linking together of the unique identifier data elements in order of the issuing agency code, enterprise identifier, and unique serial number within the enterprise identifier; or

(2) For items that are serialized within the original part, lot, or batch number, the linking together of the unique identifier data elements in order of the issuing agency code; enterprise identifier; original part, lot, or batch number; and serial number within the original part, lot, or batch number.

"Data matrix" means a two-dimensional matrix symbology, which is made up of square or, in some cases, round modules arranged within a perimeter finder pattern and uses the Error Checking and Correction 200 (ECC200) specification found within International Standards Organization (ISO)/International Electrotechnical Commission (IEC) 16022.

"Data qualifier" means a specified character (or string of characters) that immediately precedes a data field that defines the general category or intended use of the data that follows.

"DoD recognized unique identification equivalent" means a unique identification method that is in commercial use and has been recognized by DoD. All DoD recognized unique identification equivalents are listed at <https://www.acq.osd.mil/asda/dpc/ce/ds/unique-id.html>.

"DoD item unique identification" means a system of marking items delivered to DoD with unique item identifiers that have machine-readable data elements to distinguish an item from all other like and unlike items. For items that are serialized within the enterprise identifier, the unique item identifier shall include the data elements of the enterprise identifier and a unique serial number. For items that are serialized within the part, lot, or batch number within the enterprise identifier, the unique item identifier shall include the data elements of the enterprise identifier; the original part, lot, or batch number; and the serial number.

"Enterprise" means the entity (e.g., a manufacturer or vendor) responsible for assigning unique item identifiers to items.

"Enterprise identifier" means a code that is uniquely assigned to an enterprise by an issuing agency.

"Government's unit acquisition cost" means-

(1) For fixed-price type line, subline, or exhibit line items, the unit price identified in the contract at the time of delivery;

(2) For cost-type or undefinitized line, subline, or exhibit line items, the Contractor's estimated fully burdened unit cost to the Government at the time of delivery; and

(3) For items produced under a time-and-materials contract, the Contractor's estimated fully burdened unit cost to the Government at the time of delivery.

"Issuing agency" means an organization responsible for assigning a globally unique identifier to an enterprise, as indicated in the Register of Issuing Agency Codes for ISO/IEC 15459, located at http://www.aimglobal.org/?Reg_Authority15459.

"Issuing agency code" means a code that designates the registration (or controlling) authority for the enterprise identifier.

"Item" means a single hardware article or a single unit formed by a grouping of subassemblies, components, or constituent parts.

"Lot or batch number" means an identifying number assigned by the enterprise to a designated group of items, usually referred to as either a lot or a batch, all of which were manufactured under identical conditions.

"Machine-readable" means an automatic identification technology media, such as bar codes, contact memory buttons, radio frequency identification, or optical memory cards.

"Original part number" means a combination of numbers or letters assigned by the enterprise at item creation to a class of items with the same form, fit, function, and interface.

"Parent item" means the item assembly, intermediate component, or subassembly that has an embedded item with a unique item identifier or DoD recognized unique identification equivalent.

"Serial number within the enterprise identifier" means a combination of numbers, letters, or symbols assigned by the enterprise to an item that provides for the differentiation of that item from any other like and unlike item and is never used again within the enterprise.

"Serial number within the part, lot, or batch number" means a combination of numbers or letters assigned by the enterprise to an item that provides for the differentiation of that item from any other like item within a part, lot, or batch number assignment.

"Serialization within the enterprise identifier" means each item produced is assigned a serial number that is unique among all the tangible items produced by the enterprise and is never used again. The enterprise is responsible for ensuring unique serialization within the enterprise identifier.

"Serialization within the part, lot, or batch number" means each item of a particular part, lot, or batch number is assigned a unique serial number within that part, lot, or batch number assignment. The enterprise is responsible for ensuring unique serialization within the part, lot, or batch number within the enterprise identifier.

"Type designation" means a combination of letters and numerals assigned by the Government to a major end item, assembly or subassembly, as appropriate, to provide a convenient means of differentiating between items having the same basic name and to indicate modifications and changes thereto.

"Unique item identifier" means a set of data elements marked on items that is globally unique and unambiguous. The term includes a concatenated unique item identifier or a DoD recognized unique identification equivalent.

"Unique item identifier type" means a designator to indicate which method of uniquely identifying a part has been used. The current list of accepted unique item identifier types is maintained at <https://www.acq.osd.mil/asda/dpc/ce/ds/unique-id.html>.

(b) The Contractor shall deliver all items under a contract line, subline, or exhibit line item.

(c) *Unique item identifier.*

(1) The Contractor shall provide a unique item identifier for the following:

(i) Delivered items for which the Government's unit acquisition cost is \$5,000 or more, except for the following line items:

Contract Line, Subline, or

Exhibit Line Item Number

Item Description

_____	_____
_____	_____
_____	_____

(ii) Items for which the Government's unit acquisition cost is less than \$5,000 that are identified in the Schedule or the following table:

Contract Line, Subline, or

Exhibit Line Item Number

Item Description

_____	_____
_____	_____
_____	_____

(If items are identified in the Schedule, insert "See Schedule in this table.")

(iii) Subassemblies, components, and parts embedded within delivered items, items with warranty requirements, DoD serially managed reparable and DoD serially managed nonreparables as specified in Attachment Number ____.

(iv) Any item of special tooling or special test equipment as defined in FAR 2.101 that have been designated for preservation and storage for a Major Defense Acquisition Program as specified in Attachment Number ____.

(v) Any item not included in (i), (ii), (iii), or (iv) for which the contractor creates and marks a unique item identifier for traceability.

(2) The unique item identifier assignment and its component data element combination shall not be duplicated on any other item marked or registered in the DoD Item Unique Identification Registry by the contractor.

(3) The unique item identifier component data elements shall be marked on an item using two dimensional data matrix symbology that complies with ISO/IEC International Standard 16022, Information technology - International symbology specification - Data matrix; ECC200 data matrix specification.

(4) *Data syntax and semantics of unique item identifiers.* The Contractor shall ensure that-

(i) The data elements (except issuing agency code) of the unique item identifier are encoded within the data matrix symbol that is marked on the item using one of the following three types of data qualifiers, as determined by the Contractor:

(A) Application Identifiers (AIs) (Format Indicator 05 of ISO/IEC International Standard 15434), in accordance with ISO/IEC International Standard 15418, Information Technology - EAN/UCC Application Identifiers and Fact Data Identifiers and Maintenance and ANSI MH 10.8.2 Data Identifier and Application Identifier Standard.

(B) Data Identifiers (DIs) (Format Indicator 06 of ISO/IEC International Standard 15434), in accordance with ISO/IEC International Standard 15418, Information Technology - EAN/UCC Application Identifiers and Fact Data Identifiers and Maintenance and ANSI MH 10.8.2 Data Identifier and Application Identifier Standard.

(C) Text Element Identifiers (TEIs) (Format Indicator 12 of ISO/IEC International Standard 15434), in accordance with the Air Transport Association Common Support Data Dictionary; and

(ii) The encoded data elements of the unique item identifier conform to the transfer structure, syntax, and coding of messages and data formats specified for Format Indicators 05, 06, and 12 in ISO/IEC International Standard 15434, Information Technology - Transfer Syntax for High Capacity Automatic Data Capture Media.

(5) *Unique item identifier.*

(i) The Contractor shall-

(A) Determine whether to-

- (1) Serialize within the enterprise identifier;
- (2) Serialize within the part, lot, or batch number; or
- (3) Use a DoD recognized unique identification equivalent (e.g. Vehicle Identification Number); and

(B) Place the data elements of the unique item identifier (enterprise identifier; serial number; DoD recognized unique identification equivalent; and for serialization within the part, lot, or batch number only: original part, lot, or batch number) on items requiring marking by paragraph (c)(1) of this clause, based on the criteria provided in MIL-STD-130, Identification Marking of U.S. Military Property, latest version;

(C) Label shipments, storage containers and packages that contain uniquely identified items in accordance with the requirements of MIL-STD-129, Military Marking for Shipment and Storage, latest version; and

(D) Verify that the marks on items and labels on shipments, storage containers, and packages are machine readable and conform to the applicable standards. The contractor shall use an automatic identification technology device for this verification that has been programmed to the requirements of Appendix A, MIL-STD-130, latest version.

(ii) The issuing agency code-

- (A) Shall not be placed on the item; and
- (B) Shall be derived from the data qualifier for the enterprise identifier.

(d) For each item that requires item unique identification under paragraph (c)(1)(i), (ii), or (iv) of this clause or when item unique identification is provided under paragraph (c)(1)(v), in addition to the information provided as part of the Material Inspection and Receiving Report specified elsewhere in this contract, the Contractor shall report at the time of delivery, as part of the Material Inspection and Receiving Report, the following information:

- (1) Unique item identifier.
- (2) Unique item identifier type.
- (3) Issuing agency code (if concatenated unique item identifier is used).
- (4) Enterprise identifier (if concatenated unique item identifier is used).
- (5) Original part number (if there is serialization within the original part number).
- (6) Lot or batch number (if there is serialization within the lot or batch number).
- (7) Current part number (optional and only if not the same as the original part number).
- (8) Current part number effective date (optional and only if current part number is used).
- (9) Serial number (if concatenated unique item identifier is used).
- (10) Government's unit acquisition cost.
- (11) Unit of measure.
- (12) Type designation of the item as specified in the contract schedule, if any.
- (13) Whether the item is an item of Special Tooling or Special Test Equipment.
- (14) Whether the item is covered by a warranty.

(e) For embedded subassemblies, components, and parts that require DoD item unique identification under paragraph (c)(1)(iii) of this clause or when item unique identification is provided under paragraph (c)(1)(v), the Contractor shall report as part of the Material Inspection and Receiving Report specified elsewhere in this contract, the following information:

- (1) Unique item identifier of the parent item under paragraph (c)(1) of this clause that contains the embedded subassembly, component, or part.
- (2) Unique item identifier of the embedded subassembly, component, or part.
- (3) Unique item identifier type.**

(4) Issuing agency code (if concatenated unique item identifier is used).**

(5) Enterprise identifier (if concatenated unique item identifier is used).**

(6) Original part number (if there is serialization within the original part number).**

(7) Lot or batch number (if there is serialization within the lot or batch number).**

(8) Current part number (optional and only if not the same as the original part number).**

(9) Current part number effective date (optional and only if current part number is used).**

(10) Serial number (if concatenated unique item identifier is used).**

(11) Description.

** Once per item.

(f) The Contractor shall submit the information required by paragraphs (d) and (e) of this clause as follows:

(1) End items shall be reported using the receiving report capability in Wide Area WorkFlow (WAWF) in accordance with the clause at 252.232-7003. If WAWF is not required by this contract, and the contractor is not using WAWF, follow the procedures at <http://dodprocurementtoolbox.com/site/uidregistry/>.

(2) Embedded items shall be reported by one of the following methods-

(i) Use of the embedded items capability in WAWF;

(ii) Direct data submission to the IUID Registry following the procedures and formats at <http://dodprocurementtoolbox.com/site/uidregistry/>; or

(iii) Via WAWF as a deliverable attachment for exhibit line item number (fill in) ____, Unique Item Identifier Report for Embedded Items, Contract Data Requirements List, DD Form 1423.

(g) *Subcontracts*. If the Contractor acquires by subcontract, any item(s) for which item unique identification is required in accordance with paragraph (c)(1) of this clause, the Contractor shall include this clause, including this paragraph (g), in the applicable subcontract(s), including subcontracts for commercial items.

(End of clause)

Contract Clauses

FAR Clauses Incorporated by Reference

Number	Title	Effective Date
52.202-1	Definitions.	Jun 2020
52.203-3	Gratuities.	Apr 1984
52.203-12	Limitation on Payments to Influence Certain Federal Transactions.	Jun 2020
52.203-17	Contractor Employee Whistleblower Rights and Requirement To Inform Employees of Whistleblower Rights.	Jun 2020
52.204-4	Printed or Copied Double-Sided on Postconsumer Fiber Content Paper.	May 2011
52.204-19	Incorporation by Reference of Representations and Certifications.	Dec 2014
52.204-21	Basic Safeguarding of Covered Contractor Information Systems.	Nov 2021
52.212-4	Contract Terms and Conditions-Commercial Products and Commercial Services.	Nov 2021
52.223-6	Drug-Free Workplace.	May 2001
52.227-1 Alternate I	Authorization and Consent. - (Alternate I)	Jun 2020
52.227-2	Notice and Assistance Regarding Patent and Copyright Infringement.	Jun 2020
52.229-3	Federal, State, and Local Taxes.	Feb 2013
52.232-17	Interest.	May 2014
52.232-39	Unenforceability of Unauthorized Obligations.	Jun 2013
52.232-40	Providing Accelerated Payments to Small Business Subcontractors.	Nov 2021
52.233-1	Disputes.	May 2014
52.242-13	Bankruptcy.	Jul 1995
52.243-1 Alternate V	Changes-Fixed-Price. - (Alternate V)	Aug 1987
52.249-2	Termination for Convenience of the Government (Fixed-Price).	Apr 2012
52.249-9	Default (Fixed-Price Research and Development).	Apr 1984
52.253-1	Computer Generated Forms.	Jan 1991

DFARS Clauses Incorporated by Reference

Number	Title	Effective Date
252.203-7000	Requirements Relating to Compensation of Former DoD Officials.	Sep 2011
252.203-7002	Requirement to Inform Employees of Whistleblower Rights.	Sep 2013
252.204-7000	Disclosure of Information.	Oct 2016
252.204-7003	Control of Government Personnel Work Product.	Apr 1992
252.204-7012	Safeguarding Covered Defense Information and Cyber Incident Reporting.	Dec 2019
252.204-7015	Notice of Authorized Disclosure of Information for Litigation Support.	May 2016
252.204-7018	Prohibition on the Acquisition of Covered Defense Telecommunications Equipment or Services.	Jan 2021
252.204-7020	NIST SP 800-171 DoD Assessment Requirements.	Mar 2022
252.204-7022	Expediting Contract Closeout.	May 2021
252.209-7004	Subcontracting with Firms that are Owned or Controlled by the Government of a Country that is a State Sponsor of Terrorism.	May 2019
252.223-7008	Prohibition of Hexavalent Chromium.	Jun 2013
252.225-7001	Buy American and Balance of Payments Program.	Mar 2022
252.225-7002	Qualifying Country Sources as Subcontractors.	Mar 2022
252.225-7012	Preference for Certain Domestic Commodities.	Apr 2022
252.225-7048	Export-Controlled Items.	Jun 2013
252.225-7052	Restriction on the Acquisition of Certain Magnets, Tantalum, and Tungsten.	Oct 2020
252.225-7972 Deviation 2020-O0015	Prohibition on the Procurement of Foreign-Made Unmanned Aircraft Systems. (DEVIATION 2020-O0015)	May 2020
252.226-7001	Utilization of Indian Organizations, Indian-Owned Economic Enterprises, and Native Hawaiian Small Business Concerns.	Apr 2019
252.227-7016	Rights in Bid or Proposal Information.	Jan 2011
252.227-7019	Validation of Asserted Restrictions--Computer Software.	Sep 2016
252.227-7025	Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends.	May 2013
252.227-7030	Technical Data--Withholding of Payment.	Mar 2000
252.227-7037	Validation of Restrictive Markings on Technical Data.	Sep 2016
252.227-7039	Patents--Reporting of Subject Inventions.	Apr 1990
252.232-7010	Levies on Contract Payments.	Dec 2006
252.232-7017	Accelerating Payments to Small Business Subcontractors-Prohibition on Fees and Consideration.	Apr 2020
252.235-7011	Final Scientific or Technical Report.	Dec 2019
252.243-7001	Pricing of Contract Modifications.	Dec 1991
252.243-7002	Requests for Equitable Adjustment.	Dec 2012
252.244-7000	Subcontracts for Commercial Items.	Jan 2021

Supplemental Clauses Incorporated by Reference

Number	Title	Effective Date
5352.223-9000	Elimination of Use of Class I Ozone Depleting Substances (ODS).	Oct 2019

FAR Clauses Incorporated by Full Text**52.212-5 Contract Terms and Conditions Required To Implement Statutes or Executive Orders-Commercial Products and Commercial Services. May 2022**

As prescribed in 12.301(b)(4), insert the following clause:

CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS-COMMERCIAL PRODUCTS AND COMMERCIAL SERVICES (MAY 2022)

(a) The Contractor shall comply with the following Federal Acquisition Regulation (FAR) clauses, which are incorporated in this contract by reference, to implement provisions of law or Executive orders applicable to acquisitions of commercial products and commercial services:

(1) 52.203-19, Prohibition on Requiring Certain Internal Confidentiality Agreements or Statements (JAN 2017) (section 743 of Division E, Title VII, of the Consolidated and Further Continuing Appropriations Act, 2015 (Pub. L. 113-235) and its successor provisions in subsequent appropriations acts (and as extended in continuing resolutions)).

(2) 52.204-23, Prohibition on Contracting for Hardware, Software, and Services Developed or Provided by Kaspersky Lab and Other Covered Entities (NOV 2021) (Section 1634 of Pub. L. 115-91).

(3) 52.204-25, Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment. (NOV 2021) (Section 889(a)(1)(A) of Pub. L. 115-232).

(4) 52.209-10, Prohibition on Contracting with Inverted Domestic Corporations (NOV 2015).

(5) 52.233-3, Protest After Award (AUG 1996) (31 U.S.C. 3553).

(6) 52.233-4, Applicable Law for Breach of Contract Claim (OCT 2004) (Public Laws 108-77 and 108-78 (19 U.S.C. 3805 note)).

(b) The Contractor shall comply with the FAR clauses in this paragraph (b) that the Contracting Officer has indicated as being incorporated in this contract by reference to implement provisions of law or Executive orders applicable to acquisitions of commercial products and commercial services:

[Contracting Officer check as appropriate.]



(1) 52.203-6, Restrictions on Subcontractor Sales to the Government (JUN 2020), with *Alternate I* (NOV 2021) (41 U.S.C. 4704 and 10 U.S.C. 2402).



(2) 52.203-13, Contractor Code of Business Ethics and Conduct (NOV 2021) (41 U.S.C. 3509)).



(3) 52.203-15, Whistleblower Protections under the American Recovery and Reinvestment Act of 2009 (JUN 2010) (Section 1553 of Pub. L. 111-5). (Applies to contracts funded by the American Recovery and Reinvestment Act of 2009.)



(4) 52.204-10, Reporting Executive Compensation and First-Tier Subcontract Awards (JUN 2020) (Pub. L. 109-282) (31 U.S.C. 6101 note).



(5) [Reserved].



(6) 52.204-14, Service Contract Reporting Requirements (OCT 2016) (Pub. L. 111-117, section 743 of Div. C).



(7) 52.204-15, Service Contract Reporting Requirements for Indefinite-Delivery Contracts (OCT 2016) (Pub. L. 111-117, section 743 of Div. C).



(8) 52.209-6, Protecting the Government's Interest When Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment. (NOV 2021) (31 U.S.C. 6101 note).

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(9) 52.209-9, Updates of Publicly Available Information Regarding Responsibility Matters (OCT 2018) (41 U.S.C. 2313).

☐

(10) [Reserved].

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(11) 52.219-3, Notice of HUBZone Set-Aside or Sole-Source Award (SEP 2021) (15 U.S.C. 657a).

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(12) 52.219-4, Notice of Price Evaluation Preference for HUBZone Small Business Concerns (SEP 2021) (if the offeror elects to waive the preference, it shall so indicate in its offer) (15 U.S.C. 657a).

☐

(13) [Reserved]

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(14) (i) 52.219-6, Notice of Total Small Business Set-Aside (NOV 2020) (15 U.S.C. 644).

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(ii) Alternate I (MAR 2020) of 52.219-6.

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(15) (i) 52.219-7, Notice of Partial Small Business Set-Aside (NOV 2020) (15 U.S.C. 644).

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(ii) Alternate I (MAR 2020) of 52.219-7.

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(16) 52.219-8, Utilization of Small Business Concerns (OCT 2018) (15 U.S.C. 637(d)(2) and (3)).

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(17) (i) 52.219-9, Small Business Subcontracting Plan (NOV 2021) (15 U.S.C. 637(d)(4)).

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(ii) Alternate I (NOV 2016) of 52.219-9.

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(iii) Alternate II (NOV 2016) of 52.219-9.

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(iv) Alternate III (JUN 2020) of 52.219-9.

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(v) Alternate IV (SEP 2021) of 52.219-9.

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(18) (i) 52.219-13, Notice of Set-Aside of Orders (MAR 2020) (15 U.S.C. 644(r)).

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(ii) Alternate I (MAR 2020) of 52.219-13.

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(19) 52.219-14, Limitations on Subcontracting (SEP 2021) (15 U.S.C. 637s).

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(20) 52.219-16, Liquidated Damages-Subcontracting Plan (SEP 2021) (15 U.S.C. 637(d)(4)(F)(i)).

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(21) 52.219-27, Notice of Service-Disabled Veteran-Owned Small Business Set-Aside (SEP 2021) (15 U.S.C. 657f).

☐

(22) (i) 52.219-28, Post Award Small Business Program Rerepresentation (SEP 2021) (15 U.S.C. 632(a)(2)).

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(ii) Alternate I (MAR 2020) of 52.219-28.

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(23) 52.219-29, Notice of Set-Aside for, or Sole-Source Award to, Economically Disadvantaged Women-Owned Small Business Concerns (SEP 2021) (15 U.S.C. 637(m)).

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(24) 52.219-30, Notice of Set-Aside for, or Sole-Source Award to, Women-Owned Small Business Concerns Eligible Under the Women-Owned Small Business Program (SEP 2021) (15 U.S.C. 637(m)).

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(25) 52.219-32, Orders Issued Directly Under Small Business Reserves (MAR 2020) (15 U.S.C. 644(r)).

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(26) 52.219-33, Nonmanufacturer Rule (SEP 2021) (15 U.S.C. 637(a)(17)).

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(27) 52.222-3, Convict Labor (JUN 2003) (E.O.11755).

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(28) 52.222-19, Child Labor-Cooperation with Authorities and Remedies (JAN 2022) (E.O.13126).

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(29) 52.222-21, Prohibition of Segregated Facilities (APR 2015).

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(30) (i) 52.222-26, Equal Opportunity (SEP 2016) (E.O.11246).

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(ii) Alternate I (FEB 1999) of 52.222-26.

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(31) (i) 52.222-35, Equal Opportunity for Veterans (JUN 2020) (38 U.S.C. 4212).

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(ii) Alternate I (JUL 2014) of 52.222-35.

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(32) (i) 52.222-36, Equal Opportunity for Workers with Disabilities (JUN 2020) (29 U.S.C. 793).

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(ii) Alternate I (JUL 2014) of 52.222-36.

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(33) 52.222-37, Employment Reports on Veterans (JUN 2020) (38 U.S.C. 4212).

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(34) 52.222-40, Notification of Employee Rights Under the National Labor Relations Act (DEC 2010) (E.O. 13496).

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(35) (i) 52.222-50, Combating Trafficking in Persons (NOV 2021) (22 U.S.C. chapter 78 and E.O. 13627).

☐

(ii) Alternate I (MAR 2015) of 52.222-50 (22 U.S.C. chapter 78 and E.O. 13627).

☒

(36) 52.222-54, Employment Eligibility Verification (MAY 2022) (Executive Order 12989). (Not applicable to the acquisition of commercially available off-the-shelf items or certain other types of commercial products or commercial services as prescribed in FAR 22.1803.)

☐

(37) (i) 52.223-9, Estimate of Percentage of Recovered Material Content for EPA-Designated Items (May 2008) (42 U.S.C. 6962(c)(3)(A)(ii)). (Not applicable to the acquisition of commercially available off-the-shelf items.)

☐

(ii) Alternate I (MAY 2008) of 52.223-9 (42 U.S.C. 6962(i)(2)(C)). (Not applicable to the acquisition of commercially available off-the-shelf items.)

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(38) 52.223-11, Ozone-Depleting Substances and High Global Warming Potential Hydrofluorocarbons (Jun 2016) (E.O. 13693).

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(39) 52.223-12, Maintenance, Service, Repair, or Disposal of Refrigeration Equipment and Air Conditioners (JUN 2016) (E.O. 13693).

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(40) (i) 52.223-13, Acquisition of EPEAT®-Registered Imaging Equipment (JUN 2014) (E.O.s 13423 and 13514).

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(ii) Alternate I (OCT 2015) of 52.223-13.

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(41) (i) 52.223-14, Acquisition of EPEAT®-Registered Televisions (JUN 2014) (E.O.s 13423 and 13514).

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(ii) Alternate I (Jun2014) of 52.223-14.

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(42) 52.223-15, Energy Efficiency in Energy-Consuming Products (MAY 2020) (42 U.S.C. 8259b).

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(43) (i) 52.223-16, Acquisition of EPEAT®-Registered Personal Computer Products (OCT 2015) (E.O.s 13423 and 13514).

☐

(ii) Alternate I (JUN 2014) of 52.223-16.

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(44) 52.223-18, Encouraging Contractor Policies to Ban Text Messaging While Driving (JUN 2020) (E.O. 13513).

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(45) 52.223-20, Aerosols (JUN 2016) (E.O. 13693).

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(46) 52.223-21, Foams (Jun2016) (E.O. 13693).

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(47) (i) 52.224-3 Privacy Training (JAN 2017) (5 U.S.C. 552 a).

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(ii) Alternate I (JAN 2017) of 52.224-3.

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(48) 52.225-1, Buy American-Supplies (NOV 2021) (41 U.S.C. chapter 83).

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(49) (i) 52.225-3, Buy American-Free Trade Agreements-Israeli Trade Act (NOV 2021) (41 U.S.C.chapter83, 19 U.S.C. 3301 note, 19 U.S.C. 2112 note, 19 U.S.C. 3805 note, 19 U.S.C. 4001 note, Pub. L. 103-182, 108-77, 108-78, 108-286, 108-302, 109-53, 109-169, 109-283, 110-138, 112-41, 112-42, and 112-43.

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(ii) Alternate I (JAN 2021) of 52.225-3.

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(iii) Alternate II (JAN 2021) of 52.225-3.

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(iv) Alternate III (JAN 2021) of 52.225-3.

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(50) 52.225-5, Trade Agreements (OCT 2019) (19 U.S.C. 2501, *et seq.*, 19 U.S.C. 3301 note).

☒

(51) 52.225-13, Restrictions on Certain Foreign Purchases (FEB 2021) (E.O.'s, proclamations, and statutes administered by the Office of Foreign Assets Control of the Department of the Treasury).

☐

(52) 52.225-26, Contractors Performing Private Security Functions Outside the United States (Oct 2016) (Section 862, as amended, of the National Defense Authorization Act for Fiscal Year 2008; 10 U.S.C. 2302Note).

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(53) 52.226-4, Notice of Disaster or Emergency Area Set-Aside (Nov 2007) (42 U.S.C. 5150).

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(54) 52.226-5, Restrictions on Subcontracting Outside Disaster or Emergency Area (Nov2007) (42 U.S.C. 5150).

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(55) 52.229-12, Tax on Certain Foreign Procurements (FEB 2021).

☐

(56) 52.232-29, Terms for Financing of Purchases of Commercial Products and Commercial Services (NOV 2021) (41 U.S.C. 4505, 10 U.S.C. 2307(f)).

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(57) 52.232-30, Installment Payments for Commercial Products and Commercial Services (NOV 2021) (41 U.S.C. 4505, 10 U.S.C. 2307(f)).

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(58) 52.232-33, Payment by Electronic Funds Transfer-System for Award Management (OCT2018) (31 U.S.C. 3332).

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(59) 52.232-34, Payment by Electronic Funds Transfer-Other than System for Award Management (Jul 2013) (31 U.S.C. 3332).

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(60) 52.232-36, Payment by Third Party (MAY 2014) (31 U.S.C. 3332).

☐

(61) 52.239-1, Privacy or Security Safeguards (AUG 1996) (5 U.S.C. 552a).

☐

(62) 52.242-5, Payments to Small Business Subcontractors (JAN 2017) (15 U.S.C. 637(d)(13)).

☐

(63) (i) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (NOV 2021) (46 U.S.C. 55305 and 10 U.S.C. 2631).

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(ii) Alternate I (APR 2003) of 52.247-64.

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(iii) Alternate II (NOV 2021) of 52.247-64.

(c) The Contractor shall comply with the FAR clauses in this paragraph (c), applicable to commercial services, that the Contracting Officer has indicated as being incorporated in this contract by reference to implement provisions of law or Executive orders applicable to acquisitions of commercial products and commercial services:

[Contracting Officer check as appropriate.]

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(1) 52.222-41, Service Contract Labor Standards (AUG 2018) (41 U.S.C. chapter 67).

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(2) 52.222-42, Statement of Equivalent Rates for Federal Hires (MAY 2014) (29 U.S.C. 206 and 41 U.S.C. chapter 67).

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(3) 52.222-43, Fair Labor Standards Act and Service Contract Labor Standards-Price Adjustment (Multiple Year and Option Contracts) (AUG 2018) (29 U.S.C. 206 and 41 U.S.C. chapter 67).

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(4) 52.222-44, Fair Labor Standards Act and Service Contract Labor Standards-Price Adjustment (May 2014) (29 U.S.C. 206 and 41 U.S.C. chapter 67).

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(5) 52.222-51, Exemption from Application of the Service Contract Labor Standards to Contracts for Maintenance, Calibration, or Repair of Certain Equipment-Requirements (May 2014) (41 U.S.C. chapter 67).

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(6) 52.222-53, Exemption from Application of the Service Contract Labor Standards to Contracts for Certain Services-Requirements (MAY 2014) (41 U.S.C. chapter 67).

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(7) 52.222-55, Minimum Wages for Contractor Workers Under Executive Order 14026 (JAN 2022).

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(8) 52.222-62, Paid Sick Leave Under Executive Order 13706 (JAN 2022) (E.O. 13706).

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(9) 52.226-6, Promoting Excess Food Donation to Nonprofit Organizations (Jun 2020) (42 U.S.C. 1792).

(d) *Comptroller General Examination of Record.* The Contractor shall comply with the provisions of this paragraph (d) if this contract was awarded using other than sealed bid, is in excess of the simplified acquisition threshold, as defined in FAR 2.101, on the date of award of this contract, and does not contain the clause at 52.215-2, Audit and Records-Negotiation.

(1) The Comptroller General of the United States, or an authorized representative of the Comptroller General, shall have access to and right to examine any of the Contractor's directly pertinent records involving transactions related to this contract.

(2) The Contractor shall make available at its offices at all reasonable times the records, materials, and other evidence for examination, audit, or reproduction, until 3 years after final payment under this contract or for any shorter period specified in FAR subpart 4.7, Contractor Records Retention, of the other clauses of this contract. If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for 3 years after any resulting final termination settlement. Records relating to appeals under the disputes clause or to litigation or the settlement of claims arising under or relating to this contract shall be made available until such appeals, litigation, or claims are finally resolved.

(3) As used in this clause, records include books, documents, accounting procedures and practices, and other data, regardless of type and regardless of form. This does not require the Contractor to create or maintain any record that the Contractor does not maintain in the ordinary course of business or pursuant to a provision of law.

(e) (1) Notwithstanding the requirements of the clauses in paragraphs (a), (b), (c), and (d) of this clause, the Contractor is not required to flow down any FAR clause, other than those in this paragraph (e)(1) in a subcontract for commercial products or commercial services. Unless otherwise indicated below, the extent of the flow down shall be as required by the clause-

(i) 52.203-13, Contractor Code of Business Ethics and Conduct (NOV 2021) (41 U.S.C. 3509).

(ii) 52.203-19, Prohibition on Requiring Certain Internal Confidentiality Agreements or Statements (Jan 2017) (section 743 of Division E, Title VII, of the Consolidated and Further Continuing Appropriations Act, 2015 (Pub. L. 113-235) and its successor provisions in subsequent appropriations acts (and as extended in continuing resolutions)).

(iii) 52.204-23, Prohibition on Contracting for Hardware, Software, and Services Developed or Provided by Kaspersky Lab and Other Covered Entities (NOV 2021) (Section 1634 of Pub. L. 115-91).

(iv) 52.204-25, Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment. (NOV 2021) (Section 889(a)(1)(A) of Pub. L. 115-232).

(v) 52.219-8, Utilization of Small Business Concerns (OCT 2018) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds the applicable threshold specified in FAR 19.702(a) on the date of subcontract award, the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(vi) 52.222-21, Prohibition of Segregated Facilities (APR 2015).

(vii) 52.222-26, Equal Opportunity (SEP 2015) (E.O.11246).

(viii) 52.222-35, Equal Opportunity for Veterans (JUN 2020) (38 U.S.C. 4212).

(ix) 52.222-36, Equal Opportunity for Workers with Disabilities (JUN 2020) (29 U.S.C. 793).

(x) 52.222-37, Employment Reports on Veterans (JUN 2020) (38 U.S.C. 4212).

(xi) 52.222-40, Notification of Employee Rights Under the National Labor Relations Act (DEC 2010) (E.O. 13496). Flow down required in accordance with paragraph (f) of FAR clause 52.222-40.

(xii) 52.222-41, Service Contract Labor Standards (AUG 2018) (41 U.S.C. chapter 67).

(xiii) (A) 52.222-50, Combating Trafficking in Persons (NOV 2021) (22 U.S.C. chapter 78 and E.O 13627).

(B) Alternate I (MAR 2015) of 52.222-50 (22 U.S.C. chapter 78 and E.O. 13627).

(xiv) 52.222-51, Exemption from Application of the Service Contract Labor Standards to Contracts for Maintenance, Calibration, or Repair of Certain Equipment-Requirements (May2014) (41 U.S.C. chapter 67).

(xv) 52.222-53, Exemption from Application of the Service Contract Labor Standards to Contracts for Certain Services-Requirements (MAY 2014) (41 U.S.C. chapter 67).

(xvi) 52.222-54, Employment Eligibility Verification (MAY 2022) (E.O. 12989).

(xvii) 52.222-55, Minimum Wages for Contractor Workers Under Executive Order 14026 (JAN 2022).

(xviii) 52.222-62, Paid Sick Leave Under Executive Order 13706 (JAN 2022) (E.O. 13706).

(xix) (A) 52.224-3, Privacy Training (Jan 2017) (5 U.S.C. 552a).

(B) Alternate I (JAN 2017) of 52.224-3.

(xx) 52.225-26, Contractors Performing Private Security Functions Outside the United States (OCT 2016) (Section 862, as amended, of the National Defense Authorization Act for Fiscal Year 2008; 10 U.S.C. 2302 Note).

(xxi) 52.226-6, Promoting Excess Food Donation to Nonprofit Organizations (JUN 2020) (42 U.S.C. 1792). Flow down required in accordance with paragraph (e) of FAR clause 52.226-6.

(xxii) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (NOV 2021) (46 U.S.C. 55305 and 10 U.S.C. 2631). Flow down required in accordance with paragraph (d) of FAR clause 52.247-64.

(2) While not required, the Contractor may include in its subcontracts for commercial products and commercial services a minimal number of additional clauses necessary to satisfy its contractual obligations.

(End of clause)

52.227-11 Patent Rights-Ownership by the Contractor. May 2014

As prescribed in 27.303(b)(1), insert the following clause:

PATENT RIGHTS-OWNERSHIP BY THE CONTRACTOR (MAY 2014)

(a) As used in this clause-

Invention means any invention or discovery that is or may be patentable or otherwise protectable under title 35 of the U.S. Code, or any variety of plant that is or may be protectable under the Plant Variety Protection Act (7 U.S.C. 2321, *et seq.*)

Made means-

(1) When used in relation to any invention other than a plant variety, the conception or first actual reduction to practice of the invention; or

(2) When used in relation to a plant variety, that the Contractor has at least tentatively determined that the variety has been reproduced with recognized characteristics.

Nonprofit organization means a university or other institution of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c)) and exempt from taxation under section 501(a) of the Internal Revenue Code (26 U.S.C. 501(a)), or any nonprofit scientific or educational organization qualified under a State nonprofit organization statute.

"Practical application" means to manufacture, in the case of a composition of product; to practice, in the case of a process or method; or to operate, in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are, to the extent permitted by law or Government regulations, available to the public on reasonable terms.

Subject invention means any invention of the Contractor made in the performance of work under this contract.

(b) *Contractor's rights.* (1) *Ownership.* The Contractor may retain ownership of each subject invention throughout the world in accordance with the provisions of this clause.

(2) *License.* (i) The Contractor shall retain a nonexclusive royalty-free license throughout the world in each subject invention to which the Government obtains title, unless the Contractor fails to disclose the invention within the times specified in paragraph (c) of this clause. The Contractor's license extends to any domestic subsidiaries and affiliates within the corporate structure of which the Contractor is a part, and includes the right to grant sublicenses to the extent the Contractor was legally obligated to do so at contract award. The license is transferable only with the written approval of the agency, except when transferred to the successor of that part of the Contractor's business to which the invention pertains.

(ii) The Contractor's license may be revoked or modified by the agency to the extent necessary to achieve expeditious practical application of the subject invention in a particular country in accordance with the procedures in FAR 27.302(i)(2) and 27.304-1(f).

(c) *Contractor's obligations.* (1) The Contractor shall disclose in writing each subject invention to the Contracting Officer within 2 months after the inventor discloses it in writing to Contractor personnel responsible for patent matters. The disclosure shall identify the inventor(s) and this contract under which the subject invention was made. It shall be sufficiently complete in technical detail to convey a clear understanding of the subject invention. The disclosure shall also identify any publication, on sale (*i.e.*, sale or offer for sale), or public use of the subject invention, or whether a manuscript describing the subject invention has been submitted for publication and, if so, whether it has been accepted for publication. In addition, after disclosure to the agency, the Contractor shall promptly notify the Contracting Officer of the acceptance of any manuscript describing the subject invention for publication and any on sale or public use.

(2) The Contractor shall elect in writing whether or not to retain ownership of any subject invention by notifying the Contracting Officer within 2 years of disclosure to the agency. However, in any case where publication, on sale, or public use has initiated the 1-year statutory period during which valid patent protection can be obtained in the United States, the period for election of title may be shortened by the agency to a date that is no more than 60 days prior to the end of the statutory period.

(3) The Contractor shall file either a provisional or a nonprovisional patent application or a Plant Variety Protection Application on an elected subject invention within 1 year after election. However, in any case where a publication, on sale, or public use has initiated the 1-year statutory period during which valid patent protection can be obtained in the United States, the Contractor shall file the application prior to the end of that statutory period. If the Contractor files a provisional application, it shall file a nonprovisional application within 10 months of the filing of the provisional application. The Contractor shall file patent applications in additional countries or international patent offices within either 10 months of the first filed patent application (whether provisional or nonprovisional) or 6 months from the date permission is granted by the Commissioner of Patents to file foreign patent applications where such filing has been prohibited by a Secrecy Order.

(4) The Contractor may request extensions of time for disclosure, election, or filing under paragraphs (c)(1), (c)(2), and (c)(3) of this clause.

(d) *Government's rights-* (1) *Ownership.* The Contractor shall assign to the agency, on written request, title to any subject invention-

(i) If the Contractor fails to disclose or elect ownership to the subject invention within the times specified in paragraph (c) of this clause, or elects not to retain ownership; provided, that the agency may request title only within 60 days after learning of the Contractor's failure to disclose or elect within the specified times.

(ii) In those countries in which the Contractor fails to file patent applications within the times specified in paragraph (c) of this clause; provided, however, that if the Contractor has filed a patent application in a country after the times specified in paragraph (c) of this clause, but prior to its receipt of the written request of the agency, the Contractor shall continue to retain ownership in that country.

(iii) In any country in which the Contractor decides not to continue the prosecution of any application for, to pay the maintenance fees on, or defend in reexamination or opposition proceeding on, a patent on a subject invention.

(2) *License.* If the Contractor retains ownership of any subject invention, the Government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice, or have practiced for or on its behalf, the subject invention throughout the world.

(e) *Contractor action to protect the Government's interest.* (1) The Contractor shall execute or have executed and promptly deliver to the agency all instruments necessary to-

(i) Establish or confirm the rights the Government has throughout the world in those subject inventions in which the Contractor elects to retain ownership; and

(ii) Assign title to the agency when requested under paragraph (d) of this clause and to enable the Government to obtain patent protection and plant variety protection for that subject invention in any country.

(2) The Contractor shall require, by written agreement, its employees, other than clerical and nontechnical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in the Contractor's format, each subject invention in order that the Contractor can comply with the disclosure provisions of paragraph (c) of this clause, and to execute all papers necessary to file patent applications on subject inventions and to establish the Government's rights in the subject inventions. The disclosure format should require, as a minimum, the information required by paragraph (c)(1) of this clause. The Contractor shall instruct such employees, through employee agreements or other suitable educational programs, as to the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to U. S. or foreign statutory bars.

(3) The Contractor shall notify the Contracting Officer of any decisions not to file a nonprovisional patent application, continue the prosecution of a patent application, pay maintenance fees, or defend in a reexamination or opposition proceeding on a patent, in any country, not less than 30 days before the expiration of the response or filing period required by the relevant patent office.

(4) The Contractor shall include, within the specification of any United States nonprovisional patent or plant variety protection application and any patent or plant variety protection certificate issuing thereon covering a subject invention, the following statement, "This invention was made with Government support under (identify the contract) awarded by (identify the agency). The Government has certain rights in the invention."

(f) *Reporting on utilization of subject inventions.* The Contractor shall submit, on request, periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining utilization of the subject invention that are being made by the Contractor or its licensees or assignees. The reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the Contractor, and other data and information as the agency may reasonably specify. The Contractor also shall provide additional reports as may be requested by the agency in connection with any march-in proceeding undertaken by the agency in accordance with paragraph (h) of this clause. The Contractor also shall mark any utilization report as confidential/proprietary to help prevent inadvertent release outside the Government. As required by 35 U.S.C. 202(c)(5), the agency will not disclose that information to persons outside the Government without the Contractor's permission.

(g) *Preference for United States industry.* Notwithstanding any other provision of this clause, neither the Contractor nor any assignee shall grant to any person the exclusive right to use or sell any subject invention in the United States unless the person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for an agreement may be waived by the agency upon a showing by the Contractor or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States, or that under the circumstances domestic manufacture is not commercially feasible.

(h) *March-in rights.* The Contractor acknowledges that, with respect to any subject invention in which it has retained ownership, the agency has the right to require licensing pursuant to 35 U.S.C. 203 and 210(c), and in accordance with the procedures in 37 CFR 401.6 and any supplemental regulations of the agency in effect on the date of contract award.

(i) Special provisions for contracts with nonprofit organizations. If the Contractor is a nonprofit organization, it shall-

(1) Not assign rights to a subject invention in the United States without the written approval of the agency, except where an assignment is made to an organization that has as one of its primary functions the management of inventions, *provided*, that the assignee shall be subject to the same provisions as the Contractor;

(2) Share royalties collected on a subject invention with the inventor, including Federal employee co-inventors (but through their agency if the agency deems it appropriate) when the subject invention is assigned in accordance with 35U.S.C.202(e) and 37 CFR 401.10;

(3) Use the balance of any royalties or income earned by the Contractor with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions for the support of scientific research or education; and

(4) Make efforts that are reasonable under the circumstances to attract licensees of subject inventions that are small business concerns, and give a preference to a small business concern when licensing a subject invention if the Contractor determines that the small business concern has a plan or proposal for marketing the invention which, if executed, is equally as likely to bring the invention to practical application as any plans or proposals from applicants that are not small business concerns; *provided*, that the Contractor is also satisfied that the small business concern has the capability and resources to carry out its plan or proposal. The decision whether to give a preference in any specific case will be at the discretion of the Contractor.

(5) Allow the Secretary of Commerce to review the Contractor's licensing program and decisions regarding small business applicants, and negotiate changes to its licensing policies, procedures, or practices with the Secretary of Commerce when the Secretary's review discloses that the Contractor could take reasonable steps to more effectively implement the requirements of paragraph (i)(4) of this clause.

(j) *Communications.* N/A[Complete according to agency instructions.]

(k) *Subcontracts.* (1) The Contractor shall include the substance of this clause, including this paragraph (k), in all subcontracts for experimental, developmental, or research work to be performed by a small business concern or nonprofit organization.

(2) The Contractor shall include in all other subcontracts for experimental, developmental, or research work the substance of the patent rights clause required by FAR subpart 27.3.

(3) At all tiers, the patent rights clause must be modified to identify the parties as follows: references to the Government are not changed, and the subcontractor has all rights and obligations of the Contractor in the clause. The Contractor shall not, as part of the consideration for awarding the subcontract, obtain rights in the subcontractor's subject inventions.

(4) In subcontracts, at any tier, the agency, the subcontractor, and the Contractor agree that the mutual obligations of the parties created by this clause constitute a contract between the subcontractor and the agency with respect to the matters covered by the clause; provided, however, that nothing in this paragraph is intended to confer any jurisdiction under the Contract Disputes statute in connection with proceedings under paragraph (h) of this clause.

(End of clause)

52.232-2 Payments under Fixed-Price Research and Development Contracts. Apr 1984

As prescribed in 32.111(a)(2), insert the following clause, as appropriately modified with respect to payment due dates in accordance with agency regulations, in solicitations and contracts when a fixed-price research and development contract is contemplated:

PAYMENTS UNDER FIXED-PRICE RESEARCH AND DEVELOPMENT CONTRACTS (APR 1984)

The Government shall pay the Contractor, upon submission of proper invoices or vouchers, the prices stipulated in this contract for work delivered or rendered and accepted, less any deductions provided in this contract. Unless otherwise specified, payment shall be made upon acceptance of any portion of the work delivered or rendered for which a price is separately stated in the contract.

(End of clause)

52.232-8 Discounts for Prompt Payment. Feb 2002

As prescribed in 32.111(b)(1), insert the following clause:

DISCOUNTS FOR PROMPT PAYMENT (FEB 2002)

(a) Discounts for prompt payment will not be considered in the evaluation of offers. However, any offered discount will form a part of the award, and will be taken if payment is made within the discount period indicated in the offer by the offeror. As an alternative to offering a discount for prompt payment in conjunction with the offer, offerors awarded contracts may include discounts for prompt payment on individual invoices.

(b) In connection with any discount offered for prompt payment, time shall be computed from the date of the invoice. If the Contractor has not placed a date on the invoice, the due date shall be calculated from the date the designated billing office receives a proper invoice, provided the agency annotates such invoice with the date of receipt at the time of receipt. For the purpose of computing the discount earned, payment shall be considered to have been made on the date that appears on the payment check or, for an electronic funds transfer, the specified payment date. When the discount date falls on a Saturday, Sunday, or legal holiday when Federal Government offices are closed and Government business is not expected to be conducted, payment may be made on the following business day.

(End of clause)

52.232-11 Extras. Apr 1984

As prescribed in 32.111(c)(2), insert the following clause, appropriately modified with respect to payment due dates in accordance with agency regulations, in solicitations and contracts when a fixed-price supply contract, fixed-price service contract, or transportation contract is contemplated:

EXTRAS (APR 1984)

Except as otherwise provided in this contract, no payment for extras shall be made unless such extras and the price therefor have been authorized in writing by the Contracting Officer.

(End of clause)

52.252-2 Clauses Incorporated by Reference. Feb 1998

As prescribed in 52.107(b), insert the following clause:

CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

acquisition.gov _____ [Insert one or more Internet addresses]

(End of clause)

52.252-6 Authorized Deviations in Clauses. Nov 2020

As prescribed in 52.107(f), insert the following clause in solicitations and contracts that include any FAR or supplemental clause with an authorized deviation. Whenever any FAR or supplemental clause is used with an authorized deviation, the contracting officer shall identify it by the same number, title, and date assigned to the clause when it is used without deviation, include regulation name for any supplemental clause, except that the contracting officer shall insert "(DEVIATION)" after the date of the clause.

AUTHORIZED DEVIATIONS IN CLAUSES (NOV 2020)

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.

(b) The use in this solicitation or contract of any DFARS, AFFARS[insert regulation name] (48 CFR ____) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of clause)

DFARS Clauses Incorporated by Full Text

252.227-7018 Deviation 2020-O0007 Rights in Noncommercial Technical Data and Computer Software--Small Business Innovation Research (SBIR) Program (DEVIATION 2020-O0007) Feb 2014

252.227-7018 Rights in Noncommercial Technical Data and Computer Software--Small Business Innovation Research (SBIR) Program. (DEVIATION 2020-O0007)

As prescribed in 227.7104(a) (available at https://www.acq.osd.mil/dpap/dars/dfars/html/current/227_71.htm#227.7104), use the following clause:

RIGHTS IN NONCOMMERCIAL TECHNICAL DATA AND COMPUTER SOFTWARE--SMALL BUSINESS INNOVATION RESEARCH (SBIR) PROGRAM

(MAR 2020) (DEVIATION 2020-O0007)

(a) *Definitions.* As used in this clause-

(1) "Commercial computer software" means software developed or regularly used for nongovernmental purposes which-

(i) Has been sold, leased, or licensed to the public;

(ii) Has been offered for sale, lease, or license to the public;

(iii) Has not been offered, sold, leased, or licensed to the public but will be available for commercial sale, lease, or license in time to satisfy the delivery requirements of this contract; or

(iv) Satisfies a criterion expressed in paragraph (a)(1)(i), (ii), or (iii) of this clause and would require only minor modification to meet the requirements of this contract.

(2) "Computer database" means a collection of recorded data in a form capable of being processed by a computer. The term does not include computer software.

(3) "Computer program" means a set of instructions, rules, or routines, recorded in a form that is capable of causing a computer to perform a specific operation or series of operations.

(4) "Computer software" means computer programs, source code, source code listings, object code listings, design details, algorithms, processes, flow charts, formulae, and related material that would enable the software to be reproduced, recreated, or recompiled. Computer software does not include computer databases or computer software documentation.

(5) "Computer software documentation" means owner's manuals, user's manuals, installation instructions, operating instructions, and other similar items, regardless of storage medium, that explain the capabilities of the computer software or provide instructions for using the software.

(6) “Covered Government support contractor” means a contractor (other than a litigation support contractor covered by 252.204-7014) (available at <https://www.acq.osd.mil/dpap/dars/dfars/html/current/252204.htm#252.204-7014>) under a contract, the primary purpose of which is to furnish independent and impartial advice or technical assistance directly to the Government in support of the Government's management and oversight of a program or effort (rather than to directly furnish an end item or service to accomplish a program or effort), provided that the contractor-

(i) Is not affiliated with the prime contractor or a first-tier subcontractor on the program or effort, or with any direct competitor of such prime contractor or any such first-tier subcontractor in furnishing end items or services of the type developed or produced on the program or effort; and

(ii) Receives access to the technical data or computer software for performance of a Government contract that contains the clause at 252.227-7025, Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends (available at <https://www.acq.osd.mil/dpap/dars/dfars/html/current/252227.htm#252.227-7025>).

(7) “Data” means recorded information, regardless of the form or method of the recording. The term includes technical data and computer software. The term does not include information incidental to contract administration, such as financial, administrative, cost or pricing, or management information.

(8) “Detailed manufacturing or process data” means technical data that describe the steps, sequences, and conditions of manufacturing, processing or assembly used by the manufacturer to produce an item or component or to perform a process.

(9) “Developed” means-

(i) (Applicable to technical data other than computer software documentation.) An item, component, or process, exists and is workable. Thus, the item or component must have been constructed or the process practiced. Workability is generally established when the item, component, or process has been analyzed or tested sufficiently to demonstrate to reasonable people skilled in the applicable art that there is a high probability that it will operate as intended. Whether, how much, and what type of analysis or testing is required to establish workability depends on the nature of the item, component, or process, and the state of the art. To be considered “developed,” the item, component, or process need not be at the stage where it could be offered for sale or sold on the commercial market, nor must the item, component or process be actually reduced to practice within the meaning of Title 35 of the United States Code;

(ii) A computer program has been successfully operated in a computer and tested to the extent sufficient to demonstrate to reasonable persons skilled in the art that the program can reasonably be expected to perform its intended purpose;

(iii) Computer software, other than computer programs, has been tested or analyzed to the extent sufficient to demonstrate to reasonable persons skilled in the art that the software can reasonably be expected to perform its intended purpose; or

(iv) Computer software documentation required to be delivered under a contract has been written, in any medium, in sufficient detail to comply with requirements under that contract.

(10) “Developed exclusively at private expense” means development was accomplished entirely with costs charged to indirect cost pools, costs not allocated to a government contract, or any combination thereof.

(i) Private expense determinations should be made at the lowest practicable level.

(ii) Under fixed-price contracts, when total costs are greater than the firm-fixed-price or ceiling price of the contract, the additional development costs necessary to complete development shall not be considered when determining whether development was at government, private, or mixed expense.

(11) “Developed exclusively with government funds” means development was not accomplished exclusively or partially at private expense.

(12) “Developed with mixed funding” means development was accomplished partially with costs charged to indirect cost pools and/or costs not allocated to a government contract, and partially with costs charged directly to a government contract.

(13) “Form, fit, and function data” means technical data that describe the required overall physical, functional, and performance characteristics (along with the qualification requirements, if applicable) of an item, component, or process to the extent necessary to permit identification of physically and functionally interchangeable items.

(14) “Generated” means technical data or computer software first created in the performance of this contract.

(15) “Government purpose” means any activity in which the United States Government is a party, including cooperative agreements with international or multi-national defense organizations or sales or transfers by the United States Government to foreign governments or international organizations. Government purposes include competitive procurement, but do not include the rights to use, modify, reproduce, release, perform, display, or disclose technical data or computer software for commercial purposes or authorize others to do so.

(16) “Government purpose rights” means the rights to-

(i) Use, modify, reproduce, release, perform, display, or disclose technical data or computer software within the Government without restriction; and

(ii) Release or disclose technical data or computer software outside the Government and authorize persons to whom release or disclosure has been made to use, modify, reproduce, release, perform, display, or disclose that data for United States Government purposes.

(17) "Limited rights" means the rights to use, modify, reproduce, release, perform, display, or disclose technical data, in whole or in part, within the Government. The Government may not, without the written permission of the party asserting limited rights, release or disclose the technical data outside the Government, use the technical data for manufacture, or authorize the technical data to be used by another party, except that the Government may reproduce, release, or disclose such data or authorize the use or reproduction of the data by persons outside the Government if-

- (i) The production, release, disclosure, or use is-
 - (A) Necessary for emergency repair and overhaul; or
 - (B) A release or disclosure to-

(1) A covered Government support contractor in performance of its covered Government support contracts for use, modification, reproduction, performance, display, or release or disclosure to a person authorized to receive limited rights technical data; or

(2) A foreign government, of technical data other than detailed manufacturing or process data, when use of such data by the foreign government is in the interest of the Government and is required for evaluational or informational purposes;

(ii) The recipient of the technical data is subject to a prohibition on the further reproduction, release, disclosure, or use of the technical data; and

- (iii) The Contractor or subcontractor asserting the restriction is notified of such reproduction, release, disclosure, or use.

(18) "Minor modification" means a modification that does not significantly alter the nongovernmental function or purpose of computer software or is of the type customarily provided in the commercial marketplace.

(19) "Noncommercial computer software" means software that does not qualify as commercial computer software under paragraph (a)(1) of this clause.

(20) "Restricted rights" apply only to noncommercial computer software and mean the Government's rights to-

- (i) Use a computer program with one computer at one time. The program may not be accessed by more than one terminal or central processing unit or time shared unless otherwise permitted by this contract;
- (ii) Transfer a computer program to another Government agency without the further permission of the Contractor if the transferor destroys all copies of the program and related computer software documentation in its possession and notifies the licensor of the transfer. Transferred programs remain subject to the provisions of this clause;
- (iii) Make the minimum number of copies of the computer software required for safekeeping (archive), backup, or modification purposes;
- (iv) Modify computer software provided that the Government may-
 - (A) Use the modified software only as provided in paragraphs (a)(20)(i) and (iii) of this clause; and
 - (B) Not release or disclose the modified software except as provided in paragraphs (a)(20)(ii), (v), (vi), and (vii) of this clause;
- (v) Permit contractors or subcontractors performing service contracts (see 37.101 of the Federal Acquisition Regulation) in support of this or a related contract to use computer software to diagnose and correct deficiencies in a computer program, to modify computer software to enable a computer program to be combined with, adapted to, or merged with other computer programs or when necessary to respond to urgent tactical situations, provided that-

(A) The Government notifies the party which has granted restricted rights that a release or disclosure to particular contractors or subcontractors was made;

(B) Such contractors or subcontractors are subject to the non-disclosure agreement at 227.7103-7 of the Defense Federal Acquisition Regulation Supplement (available at https://www.acq.osd.mil/dpap/dars/dfars/html/current/227_71.htm#227.7103-7) or are Government contractors receiving access to the software for performance of a Government contract that contains the clause at 252.227-7025, Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends; (available at <https://www.acq.osd.mil/dpap/dars/dfars/html/current/252227.htm#252.227-7025>)

(C) The Government shall not permit the recipient to decompile, disassemble, or reverse engineer the software, or use software decompiled, disassembled, or reverse engineered by the Government pursuant to paragraph (a)(20)(iv) of this clause, for any other purpose; and

- (D) Such use is subject to the limitations in paragraphs (a)(20)(i) through (iii) of this clause;

(vi) Permit contractors or subcontractors performing emergency repairs or overhaul of items or components of items procured under this or a related contract to use the computer software when necessary to perform the repairs or overhaul, or to modify the computer software to reflect the repairs or overhaul made, provided that-

(A) The intended recipient is subject to the non-disclosure agreement at 227.7103-7 (available at https://www.acq.osd.mil/dpap/dars/dfars/html/current/227_71.htm#227.7103-7) or is a Government contractor receiving access to the software for performance of a Government contract that contains the clause at 252.227-7025, Limitations on the Use or Disclosure of Government Furnished Information Marked with Restrictive Legends (available at <https://www.acq.osd.mil/dpap/dars/dfars/html/current/252227.htm#252.227-7025>);

(B) The Government shall not permit the recipient to decompile, disassemble, or reverse engineer the software, or use software decompiled, disassembled, or reverse engineered by the Government pursuant to paragraph (a)(20)(iv) of this clause, for any other purpose; and

(C) Such use is subject to the limitations in paragraphs (a)(20)(i) through (iii) of this clause; and

(vii) Permit covered Government support contractors in the performance of Government contracts that contain the clause (available at <https://www.acq.osd.mil/dpap/dars/dfars/html/current/252227.htm#252.227-7025>) 252.227-7025, Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends, to use, modify, reproduce, perform, display, or release or disclose the computer software to a person authorized to receive restricted rights computer software, provided that-

(A) The Government shall not permit the covered Government support contractor to decompile, disassemble, or reverse engineer the software, or use software decompiled, disassembled, or reverse engineered by the Government pursuant to the paragraph (a)(20)(iv) of this clause, for any other purpose; and

(B) Such use is subject to the limitations in paragraphs (a)(20)(i) through (iv) of this clause.

(21) "SBIR data" means all data developed or generated in the performance of a SBIR contract.

(22) "SBIR data protection period" means the period of time during which the Government is obligated to protect SBIR data against unauthorized use and disclosure in accordance with SBIR data rights. The SBIR protection period begins on the date of award of the contract under which the SBIR data are developed or generated and ends 20 years after that date. This protection period is not extended by any subsequent SBIR contracts under which any portion of that SBIR data is used or delivered. The SBIR data protection period of any such subsequent SBIR contract applies only to the SBIR data that are developed or generated under that subsequent contract.

(23) "SBIR data rights" means the Government's rights, during the SBIR data protection period, in SBIR data covered by paragraph (b)(5) of this clause, as follows:

(i) Limited rights in such SBIR technical data; and

(ii) Restricted rights in such SBIR computer software.

(24) "Technical data" means recorded information, regardless of the form or method of the recording, of a scientific or technical nature (including computer software documentation). The term does not include computer software or information incidental to contract administration, such as financial and/or management information.

(25) "Unlimited rights" means rights to use, modify, reproduce, release, perform, display, or disclose, technical data or computer software in whole or in part, in any manner and for any purpose whatsoever, and to have or authorize others to do so.

(b) *Rights in technical data and computer software.* The Contractor grants or shall obtain for the Government the following royalty-free, world-wide, nonexclusive, irrevocable license rights in technical data or noncommercial computer software. All rights not granted to the Government are retained by the Contractor.

(1) *Unlimited rights.* The Government shall have unlimited rights in technical data, including computer software documentation, or computer software, including such data generated under this contract, that are-

(i) Form, fit, and function data;

(ii) Necessary for installation, operation, maintenance, or training purposes (other than detailed manufacturing or process data);

(iii) Corrections or changes to Government-furnished technical data or computer software;

(iv) Otherwise publicly available or have been released or disclosed by the Contractor or a subcontractor without restrictions on further use, release or disclosure other than a release or disclosure resulting from the sale, transfer, or other assignment of interest in the technical data or computer software to another party or the sale or transfer of some or all of a business entity or its assets to another party;

(v) Data in which the Government has acquired previously unlimited rights under another Government contract or as a result of negotiations;

(vi) Data furnished to the Government, under this or any other Government contract or subcontract thereunder, with-

(A) Government purpose license rights, limited rights, or restricted rights, and the restrictive condition(s) has/have expired; or

(B) Government purpose rights and the Contractor's exclusive right to use such data for commercial purposes has expired; and

(vii) Computer software documentation generated or required to be delivered under this contract.

(2) *Government purpose rights.*

(i) The Government shall have government purpose rights for the period specified in paragraph (b)(2)(ii) of this clause in data that are-

(A) Not SBIR data, and are-

(1) Technical data pertaining to items, components, or processes developed with mixed funding, or computer software developed with mixed funding, except when the Government is entitled to unlimited rights in such data as provided in paragraph (b)(1) of this clause; or

(2) Created with mixed funding in the performance of a contract that does not require the development, manufacture, construction, or productions of items, components, or processes; or

(B) SBIR data, upon expiration of the SBIR data protection period.

(ii)(A) For the non-SBIR data described in paragraph (b)(2)(i)(A) of this clause, the Government shall have Government purpose rights for a period of five years, or such other period as may be negotiated. This period shall commence upon execution of the contract, subcontract, letter contract (or similar contractual instrument), or contract modification (including a modification to exercise an option) that required development of the items, components, or processes, or creation of the data described in paragraph (b)(2)(i)(A)(2) of this clause. Upon expiration of the five-year or other negotiated period, the Government shall have unlimited rights in the data.

(B) For the SBIR data described in paragraph (b)(2)(i)(B) of this clause, the Government shall have Government purpose rights perpetually, or for such other period as may be negotiated. This period commences upon the expiration of the SBIR data protection period. Upon expiration of any such negotiated period, the Government shall have unlimited rights in the data.

(iii) The Government shall not release or disclose data in which it has government purpose rights unless-

(A) Prior to release or disclosure, the intended recipient is subject to the nondisclosure agreement at 227.7103-7 of the Defense Federal Acquisition Regulation Supplement (DFARS); or

(B) The recipient is a Government contractor receiving access to the data for performance of a Government contract that contains the clause at DFARS 252.227-7025, Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends.

(iv) The Contractor has the exclusive right, including the right to license others, to use technical data in which the Government has obtained government purpose rights under this contract for any commercial purpose during the time period specified in the government purpose rights legend prescribed in paragraph (f)(2) of this clause.

(3) *Limited rights.* The Government shall have limited rights in technical data, that were not generated under this contract, pertain to items, components or processes developed exclusively at private expense, and are marked, in accordance with the marking instructions in paragraph (f)(1) of this clause, with the legend prescribed in paragraph (f)(3) of this clause.

(4) *Restricted rights in computer software.* The Government shall have restricted rights in noncommercial computer software required to be delivered or otherwise furnished to the Government under this contract that were developed exclusively at private expense and were not generated under this contract.

(5) *SBIR data rights.* Except for technical data, including computer software documentation, or computer software in which the Government has unlimited rights under paragraph (b)(1) of this clause, the Government shall have SBIR data rights, during the SBIR data protection period of this contract, in all SBIR data.

(6) *Specifically negotiated license rights.* The standard license rights granted to the Government under paragraphs (b)(1) through (b)(5) of this clause may be modified by mutual agreement to provide such rights as the parties consider appropriate but shall not provide the Government lesser rights in technical data, including computer software documentation, than are enumerated in paragraph (a)(17) of this clause or lesser rights in computer software than are enumerated in paragraph (a)(20) of this clause. Any rights so negotiated shall be identified in a license agreement made part of this contract.

(7) *Prior government rights.* Technical data, including computer software documentation, or computer software that will be delivered, furnished, or otherwise provided to the Government under this contract, in which the Government has previously obtained rights shall be delivered, furnished, or provided with the pre-existing rights, unless-

(i) The parties have agreed otherwise; or

(ii) Any restrictions on the Government's rights to use, modify, release, perform, display, or disclose the technical data or computer software have expired or no longer apply.

(8) *Release from liability.* The Contractor agrees to release the Government from liability for any release or disclosure of technical data, computer software, or computer software documentation made in accordance with paragraph (a)(15), (a)(19), or (b)(5) of this clause, or in accordance with the terms of a license negotiated under paragraph (b)(6) of this clause, or by others to whom the recipient has released or disclosed the data, software, or documentation and to seek relief solely from the party who has improperly used, modified, reproduced, released, performed, displayed, or disclosed Contractor data or software marked with restrictive legends.

(9) *Covered Government support contractors.* The Contractor acknowledges that-

(i) Limited rights technical data and restricted rights computer software are authorized to be released or disclosed to covered Government support contractors;

(ii) The Contractor will be notified of such release or disclosure;

(iii) The Contractor may require each such covered Government support contractor to enter into a non-disclosure agreement directly with the Contractor (or the party asserting restrictions as identified in a restrictive legend) regarding the covered Government support contractor's use of such data or software, or alternatively that the Contractor (or party asserting restrictions) may waive in writing the requirement for a non-disclosure agreement; and

(iv) Any such non-disclosure agreement shall address the restrictions on the covered Government support contractor's use of the data or software as set forth in the clause (available at <https://www.acq.osd.mil/dpap/dars/dfars/html/current/252227.htm#252.227-7025>) 252.227-7025, Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends. The non-disclosure agreement shall not include any additional terms and conditions unless mutually agreed to by the parties to the non-disclosure agreement.

(c) *Rights in derivative computer software or computer software documentation.* The Government shall retain its rights in the unchanged portions of any computer software or computer software documentation delivered under this contract that the Contractor uses to prepare, or includes in, derivative software or documentation.

(d) *Third party copyrighted technical data and computer software.* The Contractor shall not, without the written approval of the Contracting Officer, incorporate any copyrighted technical data, including computer software documentation, or computer software in the data or software to be delivered under this contract unless the Contractor is the copyright owner or has obtained for the Government the license rights necessary to perfect a license or licenses in the deliverable data or software of the appropriate scope set forth in paragraph (b) of this clause and, prior to delivery of such-

(1) Technical data, has affixed to the transmittal document a statement of the license rights obtained; or

(2) Computer software, has provided a statement of the license rights obtained in a form acceptable to the Contracting Officer.

(e) *Identification and delivery of technical data or computer software to be furnished with restrictions on use, release, or disclosure.*

(1) This paragraph does not apply to technical data or computer software that were or will be generated under this contract or to restrictions based solely on copyright.

(2) Except as provided in paragraph (e)(3) of this clause, technical data or computer software that the Contractor asserts should be furnished to the Government with restrictions on use, release, or disclosure is identified in an attachment to this contract (the Attachment). The Contractor shall not deliver any technical data or computer software with restrictive markings unless the technical data or computer software are listed on the Attachment.

(3) In addition to the assertions made in the Attachment, other assertions may be identified after award when based on new information or inadvertent omissions unless the inadvertent omissions would have materially affected the source selection decision. Such identification and assertion shall be submitted to the Contracting Officer as soon as practicable prior to the scheduled date for delivery of the technical data or computer software, in the following format, and signed by an official authorized to contractually obligate the Contractor:

Identification and Assertion of Restrictions on the Government's Use, Release, or Disclosure of Technical Data or Computer Software.

The Contractor asserts for itself, or the persons identified below, that the Government's rights to use, release, or disclose the following technical data or computer software should be restricted:

Technical Data or Computer Software to be Furnished With Restrictions*	Basis for Assertion**	Asserted Rights Category***	Name of Person Asserting Restrictions****
_____	_____	_____	_____

_____|_____|_____|_____|

*If the assertion is applicable to items, components, or processes developed at private expense, identify both the technical data and each such item, component, or process.

**Generally, development at private expense, either exclusively or partially, is the only basis for asserting restrictions on the Government's rights to use, release, or disclose technical data or computer software. Indicate whether development was exclusively or partially at private expense. If development was not at private expense, enter the specific reason for asserting that the Government's rights should be restricted.

***Enter asserted rights category (e.g., limited rights, restricted rights, government purpose rights, or government purpose license rights from a prior contract, SBIR data rights under another contract, or specifically negotiated licenses).

****Corporation, individual, or other person, as appropriate.

Date _____

Printed Name and Title _____

Signature _____

(End of identification and assertion)

(4) When requested by the Contracting Officer, the Contractor shall provide sufficient information to enable the Contracting Officer to evaluate the Contractor's assertions. The Contracting Officer reserves the right to add the Contractor's assertions to the Attachment and validate any listed assertions, at a later date, in accordance with the procedures of the Validation of Asserted Restrictions-Computer Software and/or Validation of Restrictive Markings on Technical Data clauses of this contract.

(f) *Marking requirements.* The Contractor, and its subcontractors or suppliers, may only assert restrictions on the Government's rights to use, modify, reproduce, release, perform, display, or disclose technical data or computer software to be delivered under this contract by marking the deliverable data or software subject to restriction. Except as provided in paragraph (f)(7) of this clause, only the following markings are authorized under this contract: the limited rights legend at paragraph (f)(3) of this clause; the restricted rights legend at paragraph (f)(4) of this clause, the SBIR data rights legend at paragraph (f)(5) of this clause, or the special license rights legend at paragraph (f)(6) of this clause; and/or a notice of copyright as prescribed under 17 U.S.C. 401 or 402.

(1) *General marking instructions.* The Contractor, or its subcontractors or suppliers, shall conspicuously and legibly mark the appropriate legend to all technical data and computer software that qualify for such markings. The authorized legends shall be placed on the transmittal document or storage container and, for printed material, each page of the printed material containing technical data or computer software for which restrictions are asserted. When only portions of a page of printed material are subject to the asserted restrictions, such portions shall be identified by circling, underscoring, with a note, or other appropriate identifier. Technical data or computer software transmitted directly from one computer or computer terminal to another shall contain a notice of asserted restrictions. However, instructions that interfere with or delay the operation of computer software in order to display a restrictive rights legend or other license statement at any time prior to or during use of the computer software, or otherwise cause such interference or delay, shall not be inserted in software that will or might be used in combat or situations that simulate combat conditions, unless the Contracting Officer's written permission to deliver such software has been obtained prior to delivery. Reproductions of technical data, computer software, or any portions thereof subject to asserted restrictions shall also reproduce the asserted restrictions.

(2) *Government purpose rights markings.* Data delivered or otherwise furnished to the Government with government purpose rights shall be marked as follows:

GOVERNMENT PURPOSE RIGHTS

Contract No. _____

Contractor Name _____

Contractor Address _____

Expiration Date _____

The Government's rights to use, modify, reproduce, release, perform, display, or disclose these data are restricted by paragraph (b)(2) of the Rights in Noncommercial Technical Data and Computer Software-Small Business Innovation Research (SBIR) Program clause contained in the above identified contract. No restrictions apply after the expiration date shown above. Any reproduction of data or portions thereof marked with this legend must also reproduce the markings.

(End of legend)

(3) *Limited rights markings.* Technical data not generated under this contract that pertain to items, components, or processes developed exclusively at private expense and delivered or otherwise furnished with limited rights shall be marked with the following legend:

LIMITED RIGHTS

Contract No. _____

Contractor Name _____

Contractor Address _____

The Government's rights to use, modify, reproduce, release, perform, display, or disclose these technical data are restricted by paragraph (b)(3) of the Rights in Noncommercial Technical Data and Computer Software-Small Business Innovation Research (SBIR) Program clause contained in the above identified contract. Any reproduction of technical data or portions thereof marked with this legend must also reproduce the markings. Any person, other than the Government, who has been provided access to such data must promptly notify the above named Contractor.

(End of legend)

(4) *Restricted rights markings.* Computer software delivered or otherwise furnished to the Government with restricted rights shall be marked with the following legend:

RESTRICTED RIGHTS

Contract No. _____

Contractor Name _____

Contractor Address _____

The Government's rights to use, modify, reproduce, release, perform, display, or disclose this software are restricted by paragraph (b)(4) of the Rights in Noncommercial Technical Data and Computer Software-Small Business Innovation Research (SBIR) Program clause contained in the above identified contract. Any reproduction of computer software or portions thereof marked with this legend must also reproduce the markings. Any person, other than the Government, who has been provided access to such software must promptly notify the above named Contractor.

(End of legend)

(5) *SBIR data rights markings.* Except for technical data or computer software in which the Government has acquired unlimited rights under paragraph (b)(1) of this clause, or negotiated special license rights as provided in paragraph (b)(6) of this clause, technical data or computer software generated under this contract shall be marked with the following legend. The Contractor shall enter the expiration date for the SBIR data protection period on the legend:

SBIR DATA RIGHTS

Contract No. _____

Contractor Name _____

Contractor Address _____

Expiration of SBIR Data _____

Protection Period _____

The Government's rights to use, modify, reproduce, release, perform, display, or disclose technical data or computer software marked with this legend are restricted during the period shown as provided in paragraph (b)(5) of the Rights in Noncommercial Technical Data and Computer Software-Small Business Innovation Research (SBIR) Program clause contained in the above identified contract. After the expiration date shown above, the Government has perpetual government purpose rights as provided in paragraph (b)(5) of that clause. Any reproduction of technical data, computer software, or portions thereof marked with this legend must also reproduce the markings.

(End of legend)

(6) *Special license rights markings.*

(i) Technical data or computer software in which the Government's rights stem from a specifically negotiated license shall be marked with the following legend:

SPECIAL LICENSE RIGHTS

The Government's rights to use, modify, reproduce, release, perform, display, or disclose this technical data or computer software are restricted by Contract No. _____ (Insert contract number), License No. _____ (Insert license identifier). Any reproduction of technical data, computer software, or portions thereof marked with this legend must also reproduce the markings.

(End of legend)

(ii) For purposes of this clause, special licenses do not include government purpose license rights acquired under a prior contract (see paragraph (b)(7) of this clause).

(7) *Pre-existing data markings.* If the terms of a prior contract or license permitted the Contractor to restrict the Government's rights to use, modify, reproduce, release, perform, display, or disclose technical data or computer software, and those restrictions are still applicable, the Contractor may mark such data or software with the appropriate restrictive legend for which the data or software qualified under the prior contract or license. The marking procedures in paragraph (f)(1) of this clause shall be followed.

(g) *Contractor procedures and records.* Throughout performance of this contract, the Contractor, and its subcontractors or suppliers that will deliver technical data or computer software with other than unlimited rights, shall-

(1) Have, maintain, and follow written procedures sufficient to assure that restrictive markings are used only when authorized by the terms of this clause; and

(2) Maintain records sufficient to justify the validity of any restrictive markings on technical data or computer software delivered under this contract.

(h) *Removal of unjustified and nonconforming markings.*

(1) *Unjustified markings.* The rights and obligations of the parties regarding the validation of restrictive markings on technical data or computer software furnished or to be furnished under this contract are contained in the Validation of Restrictive Markings on Technical Data and the Validation of Asserted Restrictions-Computer Software clauses of this contract, respectively. Notwithstanding any provision of this contract concerning inspection and acceptance, the Government may ignore or, at the Contractor's expense, correct or strike a marking if, in accordance with the applicable procedures of those clauses, a restrictive marking is determined to be unjustified.

(2) *Nonconforming markings.* A nonconforming marking is a marking placed on technical data or computer software delivered or otherwise furnished to the Government under this contract that is not in the format authorized by this contract. Correction of nonconforming markings is not subject to the Validation of Restrictive Markings on Technical Data or the Validation of Asserted Restrictions-Computer Software clause of this contract. If the Contracting Officer notifies the Contractor of a nonconforming marking or markings and the Contractor fails to remove or correct such markings within sixty (60) days, the Government may ignore or, at the Contractor's expense, remove or correct any nonconforming markings.

(i) *Relation to patents.* Nothing contained in this clause shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Government under any patent.

(j) *Limitation on charges for rights in technical data or computer software.*

(1) The Contractor shall not charge to this contract any cost, including but not limited to, license fees, royalties, or similar charges, for rights in technical data or computer software to be delivered under this contract when-

(i) The Government has acquired, by any means, the same or greater rights in the data or software; or

(ii) The data are available to the public without restrictions.

(2) The limitation in paragraph (j)(1) of this clause-

(i) Includes costs charged by a subcontractor or supplier, at any tier, or costs incurred by the Contractor to acquire rights in subcontractor or supplier technical data or computer software, if the subcontractor or supplier has been paid for such rights under any other Government contract or under a license conveying the rights to the Government; and

(ii) Does not include the reasonable costs of reproducing, handling, or mailing the documents or other media in which the technical data or computer software will be delivered.

(k) *Applicability to subcontractors or suppliers.*

(1) The Contractor shall assure that the rights afforded its subcontractors and suppliers under 10 U.S.C. 2320, 10 U.S.C. 2321, and the identification, assertion, and delivery processes required by paragraph (e) of this clause are recognized and protected.

(2) Whenever any noncommercial technical data or computer software is to be obtained from a subcontractor or supplier for delivery to the Government under this contract, the Contractor shall use this same clause in the subcontract or other contractual instrument, and require its subcontractors or suppliers to do so, without alteration, except to identify the parties. The Contractor shall use the Technical Data-Commercial Items clause of this contract to obtain technical data pertaining to commercial items, components, or processes. No other clause shall be used to enlarge or

diminish the Government's, the Contractor's, or a higher tier subcontractor's or supplier's rights in a subcontractor's or supplier's technical data or computer software.

(3) Technical data required to be delivered by a subcontractor or supplier shall normally be delivered to the next higher tier contractor, subcontractor, or supplier. However, when there is a requirement in the prime contract for technical data which may be submitted with other than unlimited rights by a subcontractor or supplier, then said subcontractor or supplier may fulfill its requirement by submitting such technical data directly to the Government, rather than through a higher tier contractor, subcontractor, or supplier.

(4) The Contractor and higher tier subcontractors or suppliers shall not use their power to award contracts as economic leverage to obtain rights in technical data or computer software from their subcontractors or suppliers.

(5) In no event shall the Contractor use its obligation to recognize and protect subcontractor or supplier rights in technical data or computer software as an excuse for failing to satisfy its contractual obligation to the Government.

(End of clause)

252.235-7010 Acknowledgment of Support and Disclaimer. May 1995

As prescribed in 235.072(c), use the following clause:

ACKNOWLEDGMENT OF SUPPORT AND DISCLAIMER (MAY 1995)

(a) The Contractor shall include an acknowledgment of the Government's support in the publication of any material based on or developed under this contract, stated in the following terms: This material is based upon work supported by the Air Force Research Lab/AFWERX(name of contracting agency(ies)) under Contract No. See Page 1, Block 2 of SF1449(Contracting agency(ies) contract number(s)).

(b) All material, except scientific articles or papers published in scientific journals, must, in addition to any notices or disclaimers by the Contractor, also contain the following disclaimer: Any opinions, findings and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the Air Force Research Lab/AFWERX(name of contracting agency(ies)).

(End of clause)

Supplemental Clauses Incorporated by Full Text

5352.201-9101 Ombudsman. Oct 2019

As prescribed in 5301.9103, insert the following clause:

OMBUDSMAN (OCT 2019)

(a) An ombudsman has been appointed to hear and facilitate the resolution of concerns from offerors, potential offerors, and others for this acquisition. When requested, the ombudsman will maintain strict confidentiality as to the source of the concern. The existence of the ombudsman does not affect the authority of the program manager, contracting officer, or source selection official. Further, the ombudsman does not participate in the evaluation of proposals, the source selection process, or the adjudication of protests or formal contract disputes. The ombudsman may refer the interested party to another official who can resolve the concern.

(b) Before consulting with an ombudsman, interested parties must first address their concerns, issues, disagreements, and/or recommendations to the contracting officer for resolution. Consulting an ombudsman does not alter or postpone the timelines for any other processes (e.g., agency level bid protests, GAO bid protests, requests for debriefings, employee-employer actions, contests of OMB Circular A-76 competition performance decisions).

(c) If resolution cannot be made by the contracting officer, the interested party may contact the AFRL Ombudsman, Director of Contracting, HQ AFRL/PK. The AFRL Alternate Ombudsman is the Deputy Director of Contracting, HQ AFRL/PK. Please send an email to afrl.pk.workflow@us.af.mil with the subject of "Ombudsman." Concerns, issues, disagreements, and recommendations that cannot be resolved at the Center/MAJCOM/DRU/SMC ombudsman level, may be brought by the interested party for further consideration to the Air Force ombudsman, Associate Deputy Assistant Secretary (ADAS) (Contracting), SAF/AQC, 1060 Air Force Pentagon, Washington DC 20330-1060, phone number (571) 256-2395, facsimile number (571) 256-2431.

(d) The ombudsman has no authority to render a decision that binds the agency.

(e) Do not contact the ombudsman to request copies of the solicitation, verify offer due date, or clarify technical requirements. Such inquiries shall be directed to the contracting officer.

(End of clause)

List of Attachments

Number	Attachment Name	Attachment Description	Reference Identifier	Date	Line Item
01	Attachment 1 - 15478 Non Proprietary Work Plan	Statement of Work		19 Jul 2022	

NON-PROPRIETARY WORK PLAN WITH MILESTONES AND TASK OUTLINE

Phase II Milestones

Smarter Reality shall produce a Conflict Resolution Simulator prototype software deployed as an interactive dialogue-driven trainer that uses a blend of virtual reality and natural language processing (including voice recognition via speech-to-text) to empower individuals to improve communication and collaboration by privately rehearsing simulated mission-essential conversations with an artificially intelligent (AI) virtual companion (with customizable behaviors, goals and mannerisms via expert system AI) on topics related to honor, diversity/equity/inclusion, and leadership.

Task Outline. Smarter Reality shall:

- Draft a set of comprehensive design, system, and content specifications
- Establish quantitative goals for the prototype
- Draft content documentation including a scenario, text options and scoring
- Complete the system design
- Design and produce an intuitive, interactive user interface
- Create art and sound assets
- Draft one complete training scenario
- Design expert system artificial intelligence to execute at least one scenario
- Design and implement a virtual reality environment.
- Design and implement AI-enabled conversational companion.
- Design and implement a speech-to-text NLP for a single scenario.
- Develop the code customized to USAF Academy needs
- Produce an initial testable version (prototype) for testing and feedback
- Complete training for USAF Academy personnel on how to use and test the technology
- Produce a testable prototype with selected, priority features from the design
- Complete a Phase II Final Report due 30 days after Phase II technical effort ends
- Complete Quarterly Status Reports
- Complete a Phase II Summary report at technical effort completion
- Complete software documentation and user manuals

Milestone Progress

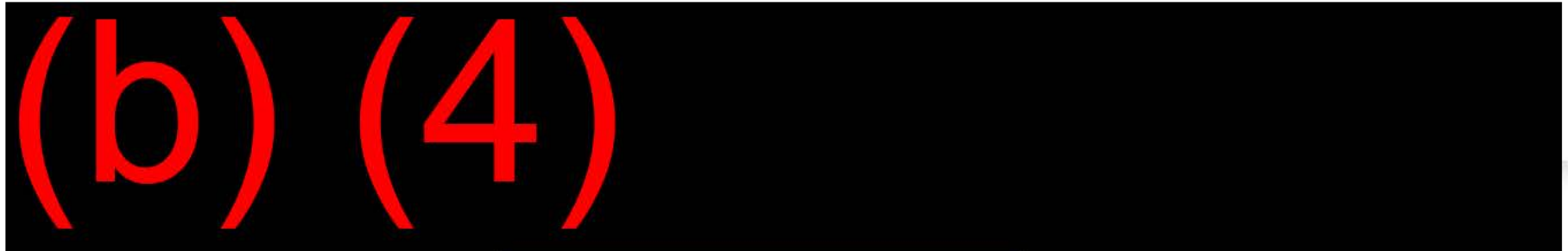
TASK (Maximum 10 Milestones)	EXPECTED DELIVERY	DELIVERABLE	ACCEPTANCE CRITERIA
01 – Finalize customer requirements for adaptation	Award + 0.5 months	Complete specifications for adapted solution and quantitative test goals for prototype in the AF op environment.	AF end-users and AF customers agree that the specifications will meet their needs.
02 – Deliver User Interface	Award + 1.5 months	Completed functional design for the Simulator with UX/UI	The AF end-users will review and accept the user interface.
03 – Deliver Completed Functional Design for NLP	Award + 3 months	Completed functional design for natural language processing system and initial scenario	The AF end-users will review and accept the content documentation related to the initial scenario.
04 – Deliver Completed	Award + 5 months	Completed functional design for the virtual	The AF end-users will review and accept the

Functional Design for the VR Environment		reality environment and experience based on the initial scenario.	VR environmental design.
05 – Deliver Initial Scenario Customization Tools	Award + 7 months	Prototype scenario implemented in virtual reality with limited NLP functionality.	AF end-users will review and accept the initial scenario outlined in VR.
06 – Deliver Initial Playable Version	Award + 9 months	Initial testable version focused on a single scenario (may not yet include all functionality). Smarter Reality will train up to three AF users.	The initial testable version of the Simulator will allow a user to participate in a single scenario. AF users will verify that training is sufficient.
07 – Deliver Prototype Complete in an Alpha State	Award + 11 months	Prototype Simulator completed in an early state and testable on a developer server.	AF users will validate that the Simulator operates in the test environment.
08 – Deliver Final Prototype	Award + 12 months	Final prototype delivered via SAAS (or on stand-alone server). End Users play through the test scenario.	AF users will validate that the Simulator operates as intended and IAW initial requirements.
09 – Phase II Summary Report	Award + 15 months	Final report (draft) and summary report (not exceed 700 words; shall include a description of the tech and anticipated applications / benefits for Gov / private sector.	AF end users, AF customers and designated AF SBIR personnel will accept the report.
10 – Final Report	Award + 15 months	Final report	AF end users, AF customers and designated AF SBIR personnel will accept the report.

Conflict Resolution Simulator: Practice Difficult Conversations in VR

Primary AF Customer: USAF Academy

Phase II Funding: \$750,000



Problem/Opportunity

Cadets and junior personnel struggle conducting difficult conversations related to honor, diversity and inclusion and leadership and discipline. Existing “role play” is insufficient practice for rising leaders to lead the diverse force of the future.

Proposed Solution

A virtual reality experience where students can practice difficult conversations with an artificially intelligent conversational companion that understands student questions and comments and responds based on scenario factors and student inputs.

Impact

Allows students to practice difficult conversations and experiment with different approaches using an interactive virtual reality experience to improve communication, empathy, decision-making and leadership effectiveness.

Phase I End

28 Jan 22

Phase II Start

9 Aug 2022

Planned Phase II End

22 May 2024

“The [Simulator] provides the Center for Character and Leadership Development with a dialogue driven trainer that uses a blend of virtual reality, natural language processing and voice recognition to empower [our cadets] to improve communication and collaboration by privately rehearsing simulated mission-essential conversations with an artificially intelligence virtual companion.” - Lt Gen Richard M. Clark, Superintendent, USAF Academy

Conflict Resolution Simulator – CLIN 0001

9 Aug 22

TASK: 01 – Finalize Customer Requirements for Adaptation

DELIVERABLE: Complete specifications for adapted solution and quantitative test goals for prototype in the AF Environment.

Overview:

Smarter Reality's Conflict Resolution Simulator is a conversation trainer that empowers individuals to practice difficult, mission-essential conversations (related to leadership, discipline, diversity/equity/inclusion, and honor) with an AI-enabled digital companion presented in a high-fidelity virtual reality environment.

The individualized, virtual reality experience uses a customized video game engine that powers software with millions of users combined with commercially available hardware and an expert system artificial intelligence.

Features:

The Simulator includes:

- (1) an adaptive conversational engine and artificially intelligent virtual conversation companion that responds to verbal input using speech-to-text language processing and expert system AI,
- (2) a virtual reality environment that allows users to view and interact with the virtual conversation companion (for example, by viewing, understanding, and responding to signs of agitation or distress),
- (3) a conversation library where content can be accessed, shared, and customized (users can adjust how the virtual companion may respond to different inputs), and
- (4) a post-conversation evaluation and analytics system so individuals can compare their approach with a community or against an optimal result (or receive a certification).

How it works:

- (1) Users access the Simulator using a commercial virtual reality device.
- (2) The user selects a conversation topic from a variety of learning objectives, receiving an overview (by reviewing relevant documentation such as a plagiarized paper, reading investigatory reports, or watching a witness video) and the desired outcomes.
- (3) The Simulator starts, and the user begins conversing with a virtual AI-enabled companion who understands what the user says into the microphone and responds with contextually accurate comments, answers, and questions.
- (4) The virtual companion's response is controlled by the expert system AI which balances several factors such as the user's attitude (friendly, angry), conversational choices, and the virtual companion's characteristics and scenario background –which influences the virtual companion's behavior and the

9 Aug 22

course of the conversation. The user can see how the virtual companion reacts, including body language and facial expressions.

(5) Once the scenario is complete, the user can review their choices, receive an evaluation, review analytics related to the conversation, and play the scenario again, making different choices which can create a different outcome.

Other Features:

- (1) diverse virtual companions,
- (2) customizable “behaviors,” and players face a range of emotional responses (angry, quiet) and no two sessions are the same,
- (3) realistic facial expressions and non-verbal cues displayed in a virtual environment,
- (4) conversations pulled directly from real-life (this includes cadet honor violations) locations and interpersonal challenges, and
- (5) re-playable experiences by adjusting the virtual companion’s behavior, choices, and background.

Technical Features:

- (1) User interface layer via virtual reality or mobile device that receives spoken word,
- (2) Speech to text conversion to understand the spoken word,
- (3) Natural language processing to assign meaning to the spoken word,
- (4) Expert system AI to empower the conversation companion interactions, and
- (5) Simulation and animation appropriate to the scenario and interactions.

MOU Requirements:

- (1) Develop a Flexible and Customizable Virtual Reality Conversational Training Tool for the USAFA. Supports the Center’s mission related to honor training, customized with relevant scenarios
- (2) Empower Instructors and Students to Improve Difficult One-on-One Communication. Uses realistic, simulated conversations focused on honor but extensible to leadership and DEI
- (3) Generate Performance Data on Students and Instructors Related to “Soft Skills.” Reinforce the values of ethical leadership and measure quantitative improvement
- (4) Produce an Intuitive and Accurate Simulator User Experience Customized for the USAF Academy. Easily learned interface and input/outputs that requires little or no training to use
- (5) Complete the Simulator’s Functional Design. Address major considerations such as the scenario, instructor, cadet, environment, and conversation
- (6) Produce an Initial Virtual Reality Environment That Replicates an Instructor’s Office. Authentic environment and conversational companion (designs are “true to life”)

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(7) Integrate Educational / Curriculum Guidance as Appropriate. Provide contextual and relevant learning as needed for the scenario

(8) Develop a Proof of Concept for the Natural Language Processing (Speech to Text) System. Based on an initial scenario with flexible parameters (responses can change based on inputs)

Phase II Technical Objectives and Key Results

(1) Produce an Intuitive and Accurate User Interface Customized for the USAF Academy

- Visible and accessible inputs, outputs, information, setting, objectives, and constraints
- Leverages existing VR hardware available at the USAF Academy
- Matches proposed design developed during discussions with CCLD and the Honor Program

(2) Complete the Functional Design for the Simulator

- Simulation design reflecting weights and factors, including companion attitude / behavior
- Specific focus on Honor Program considerations: “toleration” and “honor clarifications”
- At least one scenario with a designated conversational companion, conditions, and outcomes

(3) Virtual Reality Environment Available for Preliminary Testing and Review

- Authentic and accurate “look and feel” as to the locations and the conversational companion
- Aligns with the scenario design and expected user behavior
- One “room” and one “conversational companion” implemented visually for review

(4) First Testable Version (Prototype) in Use by Initial USAF End-Users

- One preliminary scenario and conversation released to a subset of users selected by CCLD
- Playtesting, quality assurance testing, and feedback integrated back into the design
- Document feedback and potential design improvements

(5) Prototype for Testing and Internal USAF Academy Distribution and Stakeholder Review

- Remaining features from design added to “first testable” implementation, stakeholder review
- Release to a subset of users selected by CCLD, aligned with curriculum and academic calendar
- Document feedback and potential design improvements

Quantitative Test Goals:

(1) Identify one complete scenario with at least two branch options

(2) Demo the prototype to 40 cadets (Character and Honor Liaisons) for feedback

(3) Engage at least five cadets (Character and Honor Leaders) as hands on testers

(4) Provide about five minutes of content in a single conversation thread

(5) Identify three other possible scenarios

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(6) Conduct no less than three product discovery / design sessions with cadets and instructors

(7) Engage with the Spark Club cadets with at least one demonstration or test roll out

Technical Overview

Genre: Simulator

Platform: PC/Desktop - VR

Engine: Unity 3d

The project, which requires the integration of some state-of-the-art technologies, can be seen as the combination of the following *components*:

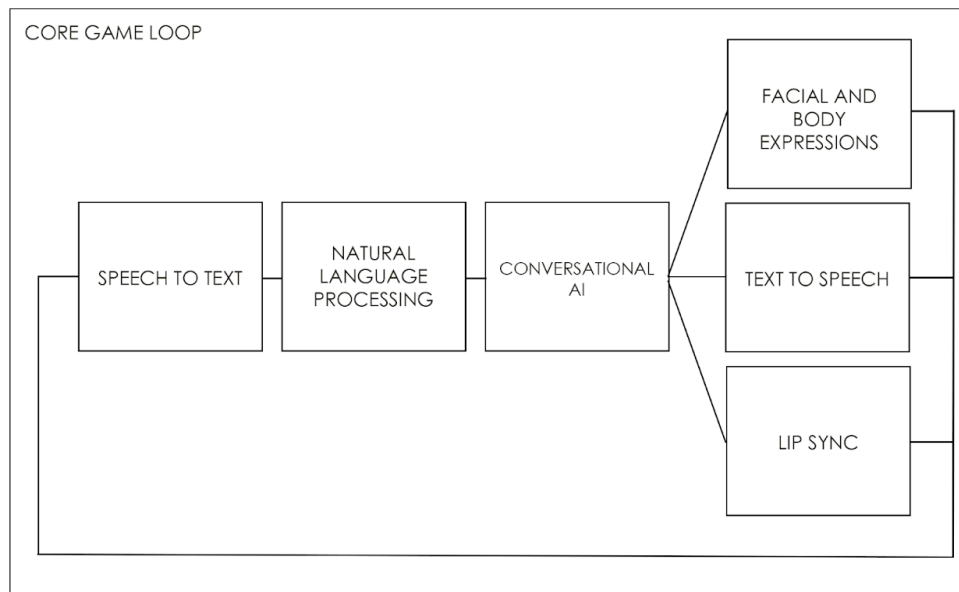
- Speech to text: this component's responsibility is to record, analyze and translate the user's voice into text format
- Natural Language Processing: to analyze the user's input
- Conversational AI: in charge of responding to the user's input
- Core game loop: potentially consisting of multiple scenarios and branching narratives based on the Conversational AI's mood in response to the user's input
- Facial and Body Expressions: AI's reaction to the user's action and graphical representation of mood
- Text to Speech - TBD if needed: to transform AI's responses into voice. Alternatives are the AI responding in text or having pre-recorded responses
- Lip Sync - nice to have: in order to sync the AI's lips/mouth to the speech

Each component will be treated and developed as an independent *proof of concept* (POC) in which the output of one component becomes the input for one or more other components. This will allow us to isolate components and iterate using TDD (test driven development). This setup is crucial in such a complex experimental environment, in which errors in one module can introduce errors in a subsequent module that may be working properly.

The project will also need to anticipate the following *content creation* in its production schedule:

- Scenario design (office, classroom, bar, etc.).
- Character modeling.
- UI/UX design.
- Tools for Scenario Creation.

Once all POCs are developed and content creation has progressed far enough, the next step will be to tie everything together into a *core game loop* that connects the components with the client layer.



There are multiple services, SDKs and technologies that can be integrated into a Unity project to speed up the development of each of the components mentioned above.

Speech to text

Something to clarify is most/all the existing commercially available technologies may not be accurate enough to understand English at a conversational level for all accents and dialects. With that in mind, the resulting Simulator design may offer options in the way of questions / responses the user can voice out loud to interact with the simulation. More research will be needed to understand the scope and limitations of current Speech to text technology.

<https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/get-started-speech-to-text?tabs=terminal&pivots=programming-language-csharp>

<https://github.com/corycorvus/Unity-Speech-to-Text>

<https://deepgram.com/super-charge-your-cx-with-accurate-speech-recognition/>

Natural Language Processing (NLP) & Conversational AI

Since NLP without any intent would be impractical, most of the NLP services/libraries also offer the ability for the AI/Bot to respond.

<https://aws.amazon.com/comprehend/>

<https://www.houndify.com/products/nlu>

<https://github.com/voxell-tech/UnityNLP>

<https://cloud.google.com/conversational-ai>

Facial Expressions & Lip Sync

There are multiple alternatives for Unity that combine Facial Expressions and Lip Sync. How well these work will determine the 3D production pipeline for the content creation team.

<https://forum.unity.com/threads/released-puppet-face-all-in-1-facial-animation-for-unity.1023949/>
<https://github.com/hecomi/uLipSync>
<https://crazyminnnowstudio.com/unity-3d/lip-sync-salsa/features/>
<https://lipsync.rogodigital.com/>

Body Expressions

Body expressions will be achieved with a combination of Motion Capture (either performed by us or by animations being included in purchased assets) and post-production polish and cleanup in 3D Software (3ds Max or similar).

All the animations needed for each supported mood will have to be created manually, so no programmatic approach will be required for this component.

Conflict Resolution Simulator

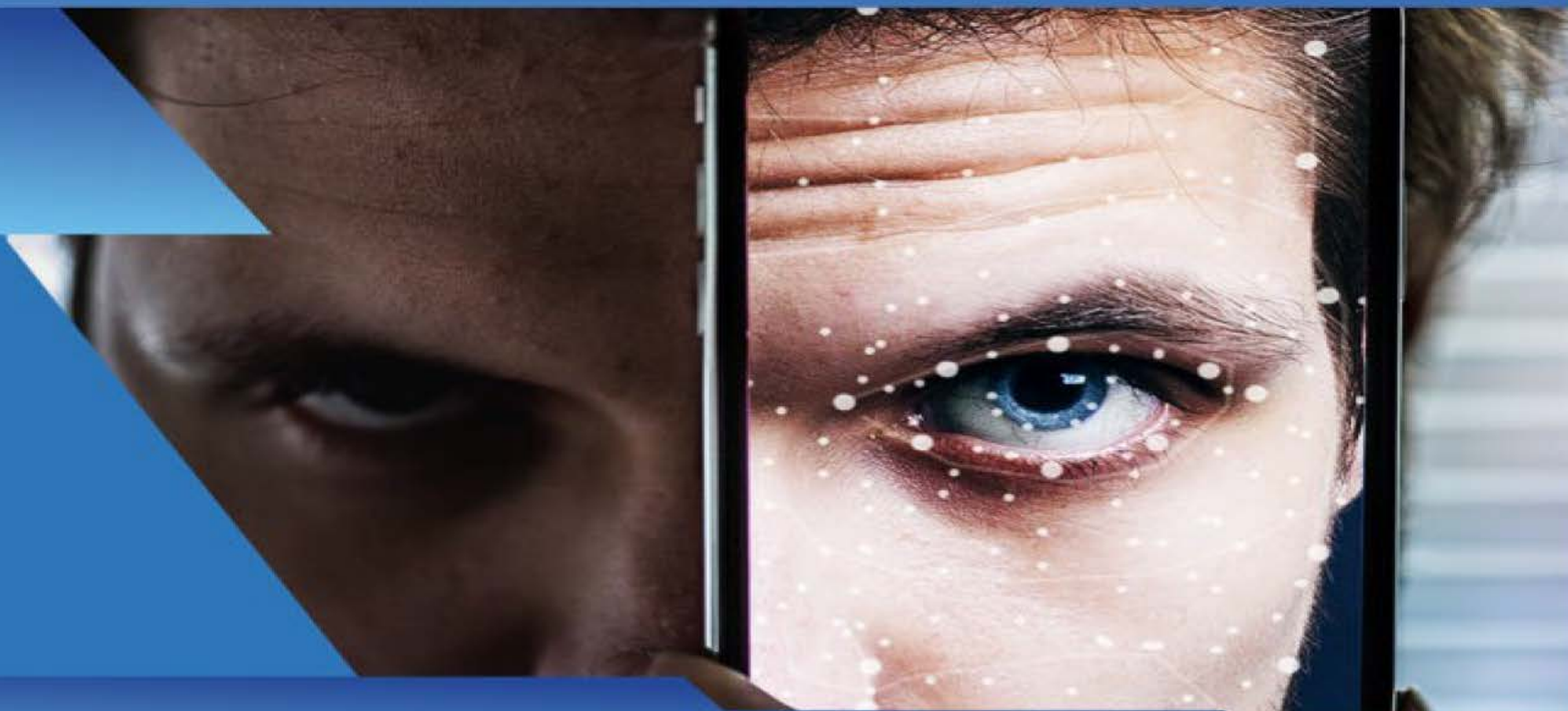
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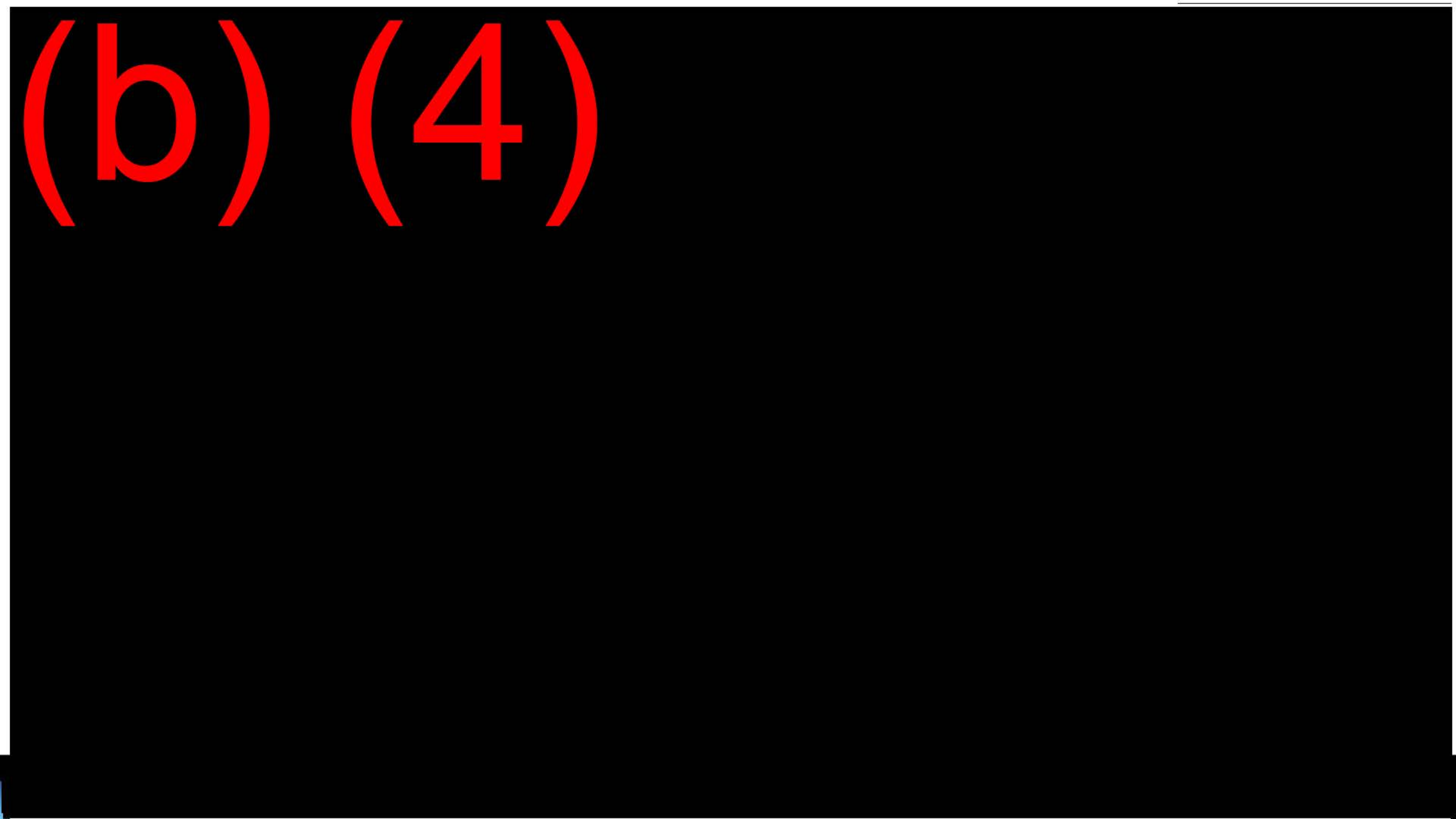
SmarterReality™

Frank Coppersmith

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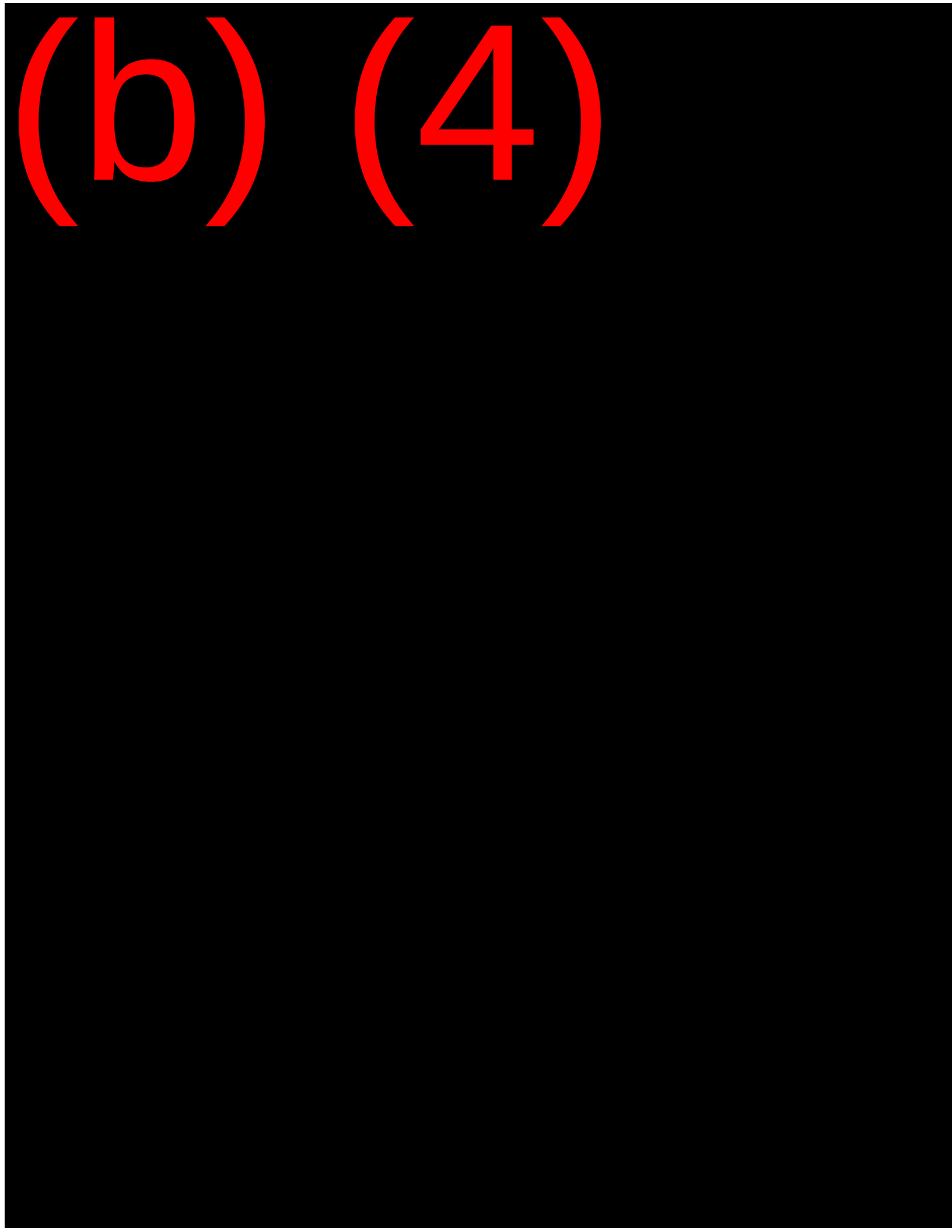
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CONFLICT RESOLUTION SIMULATOR

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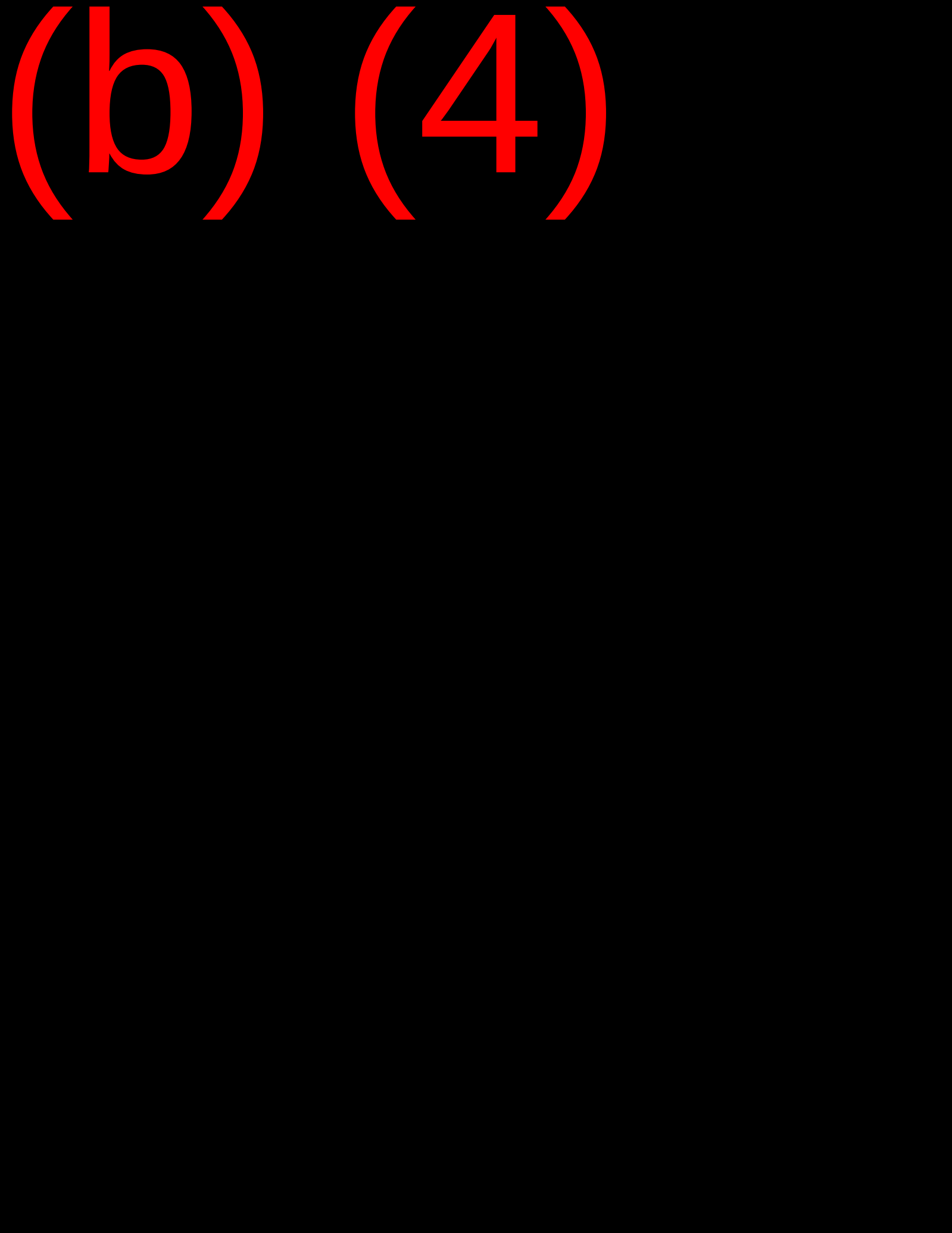
Design Document



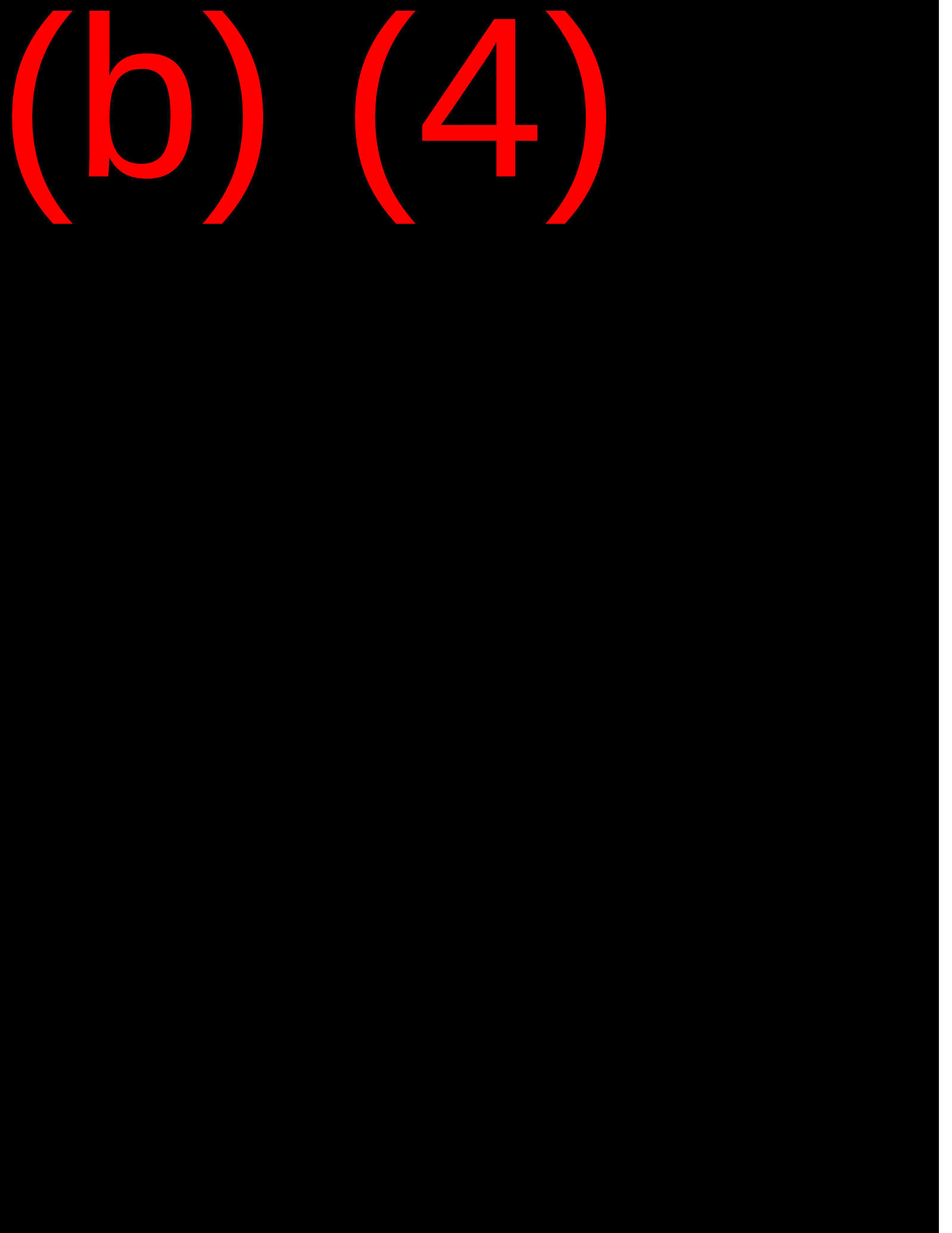


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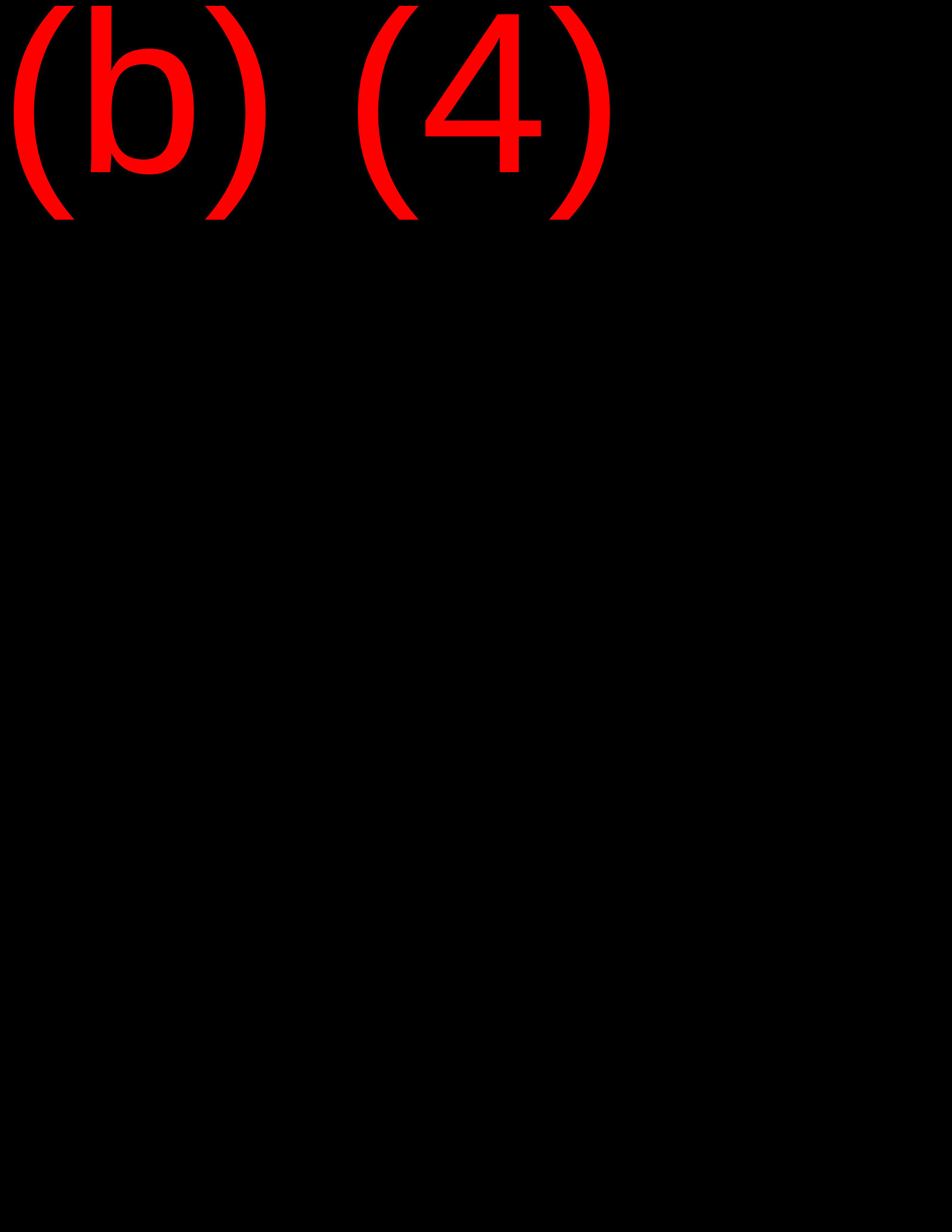
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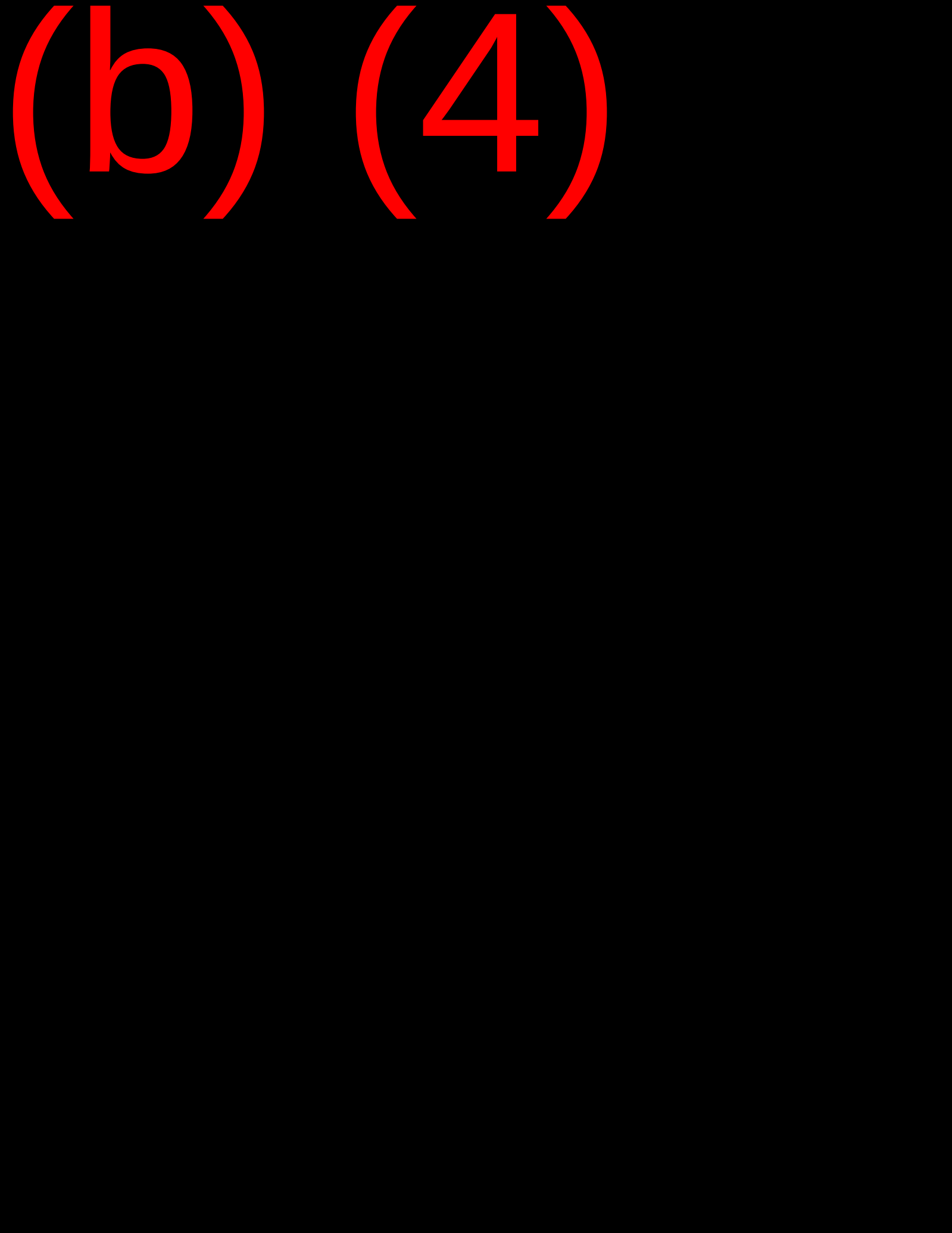
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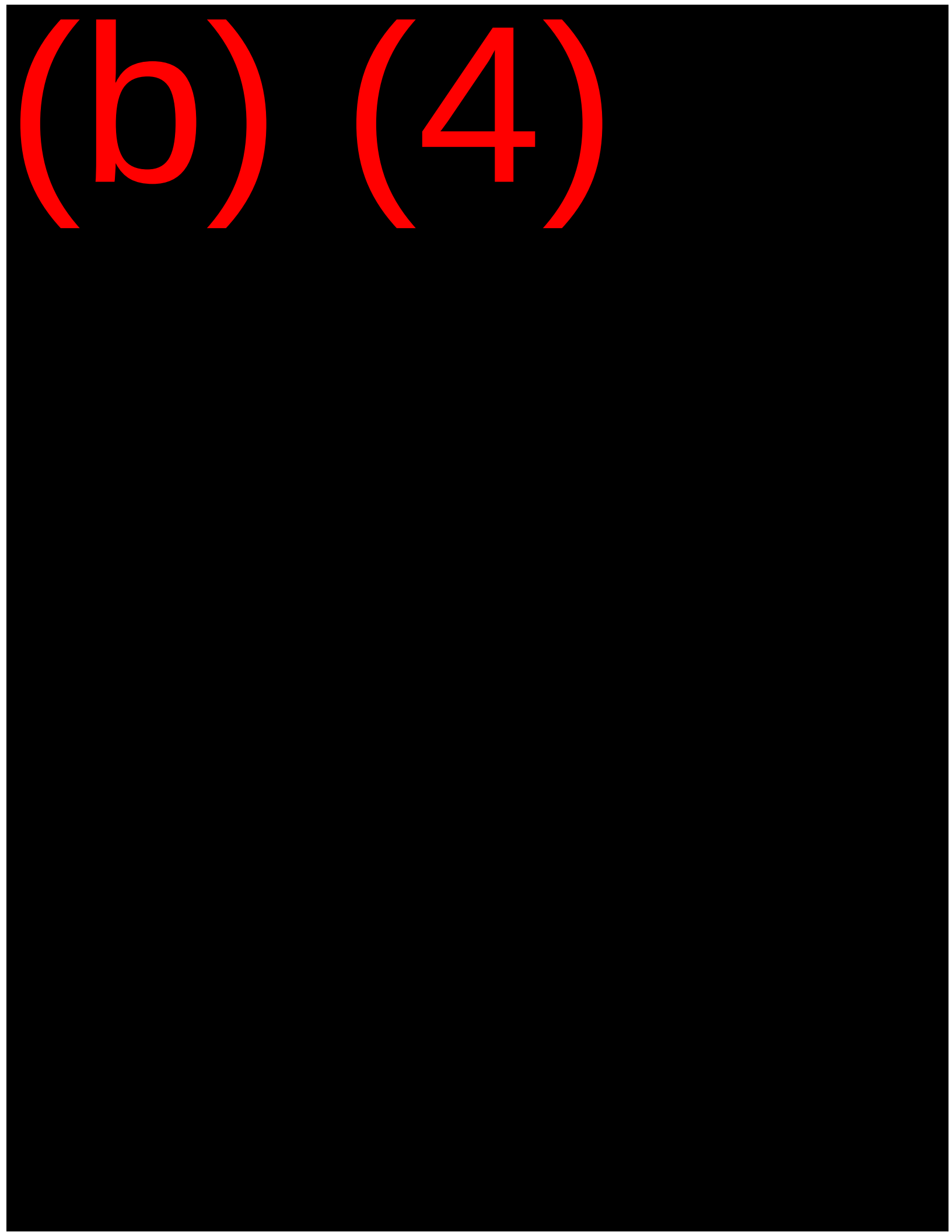
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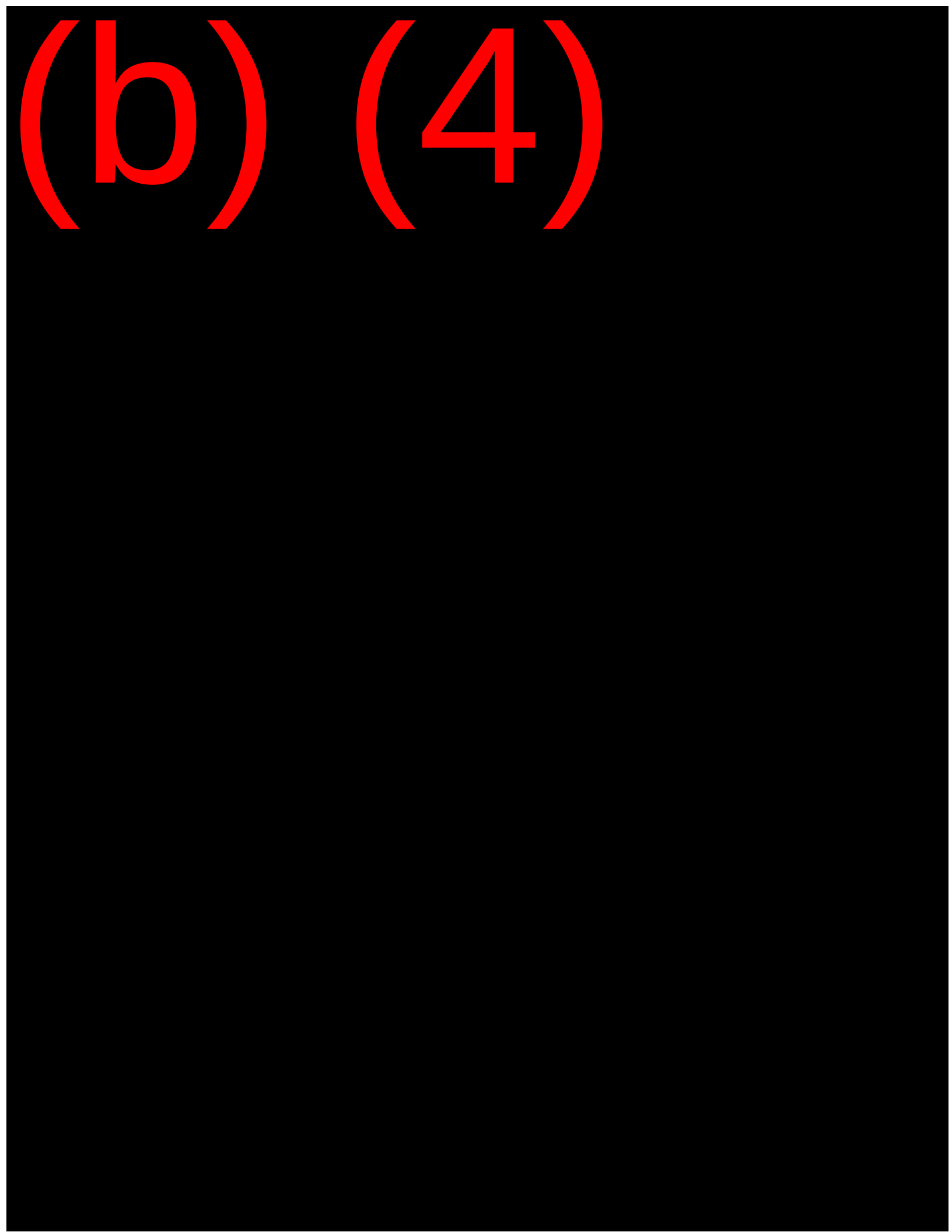


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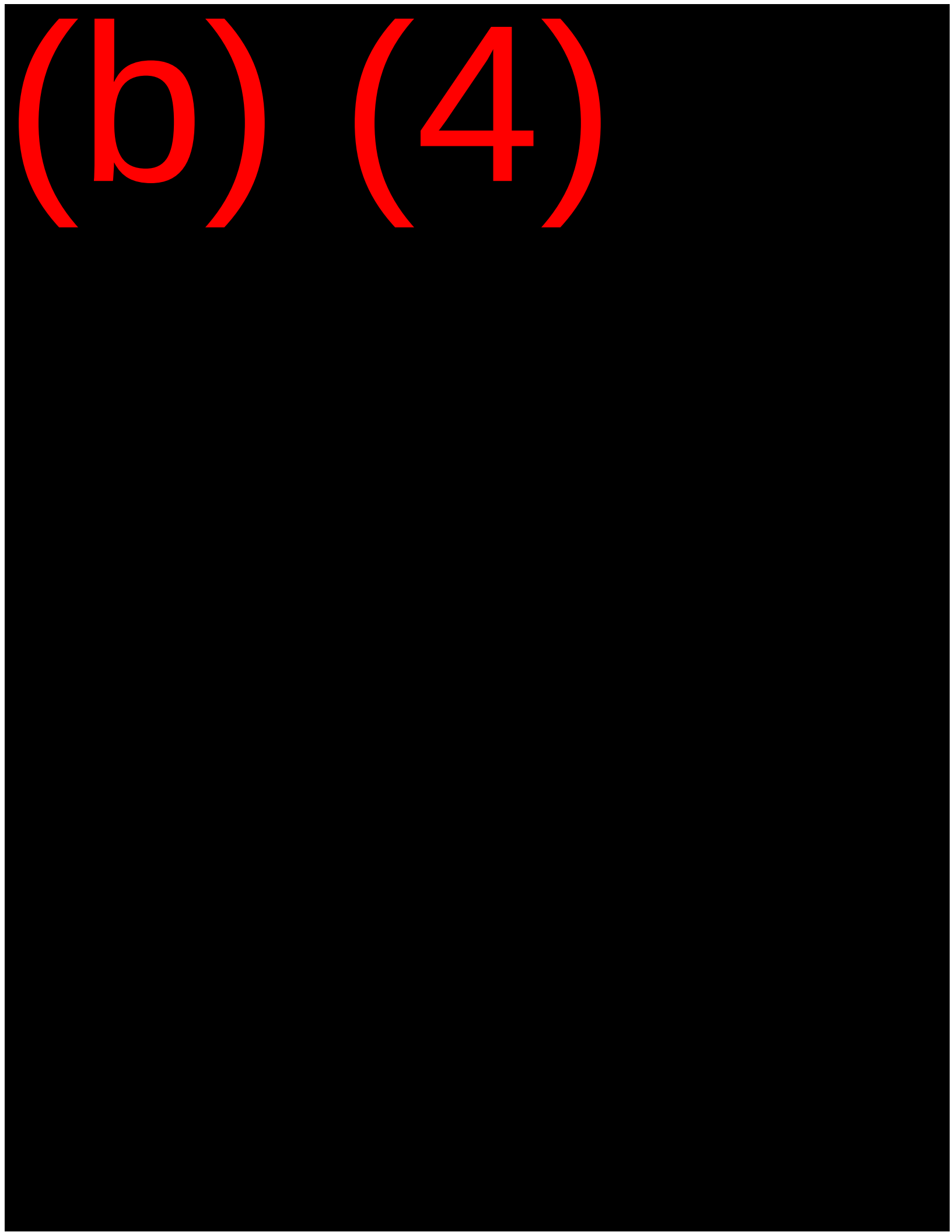
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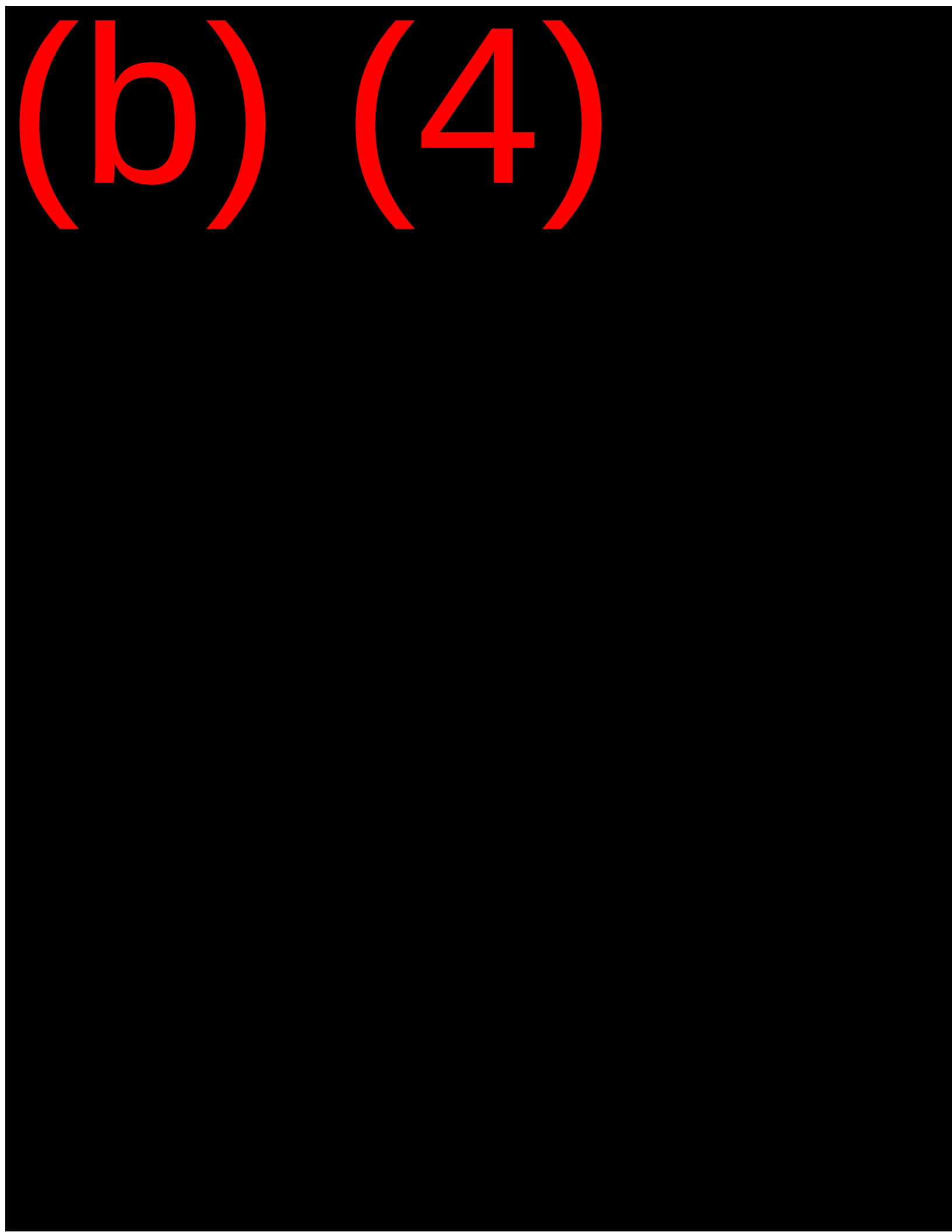
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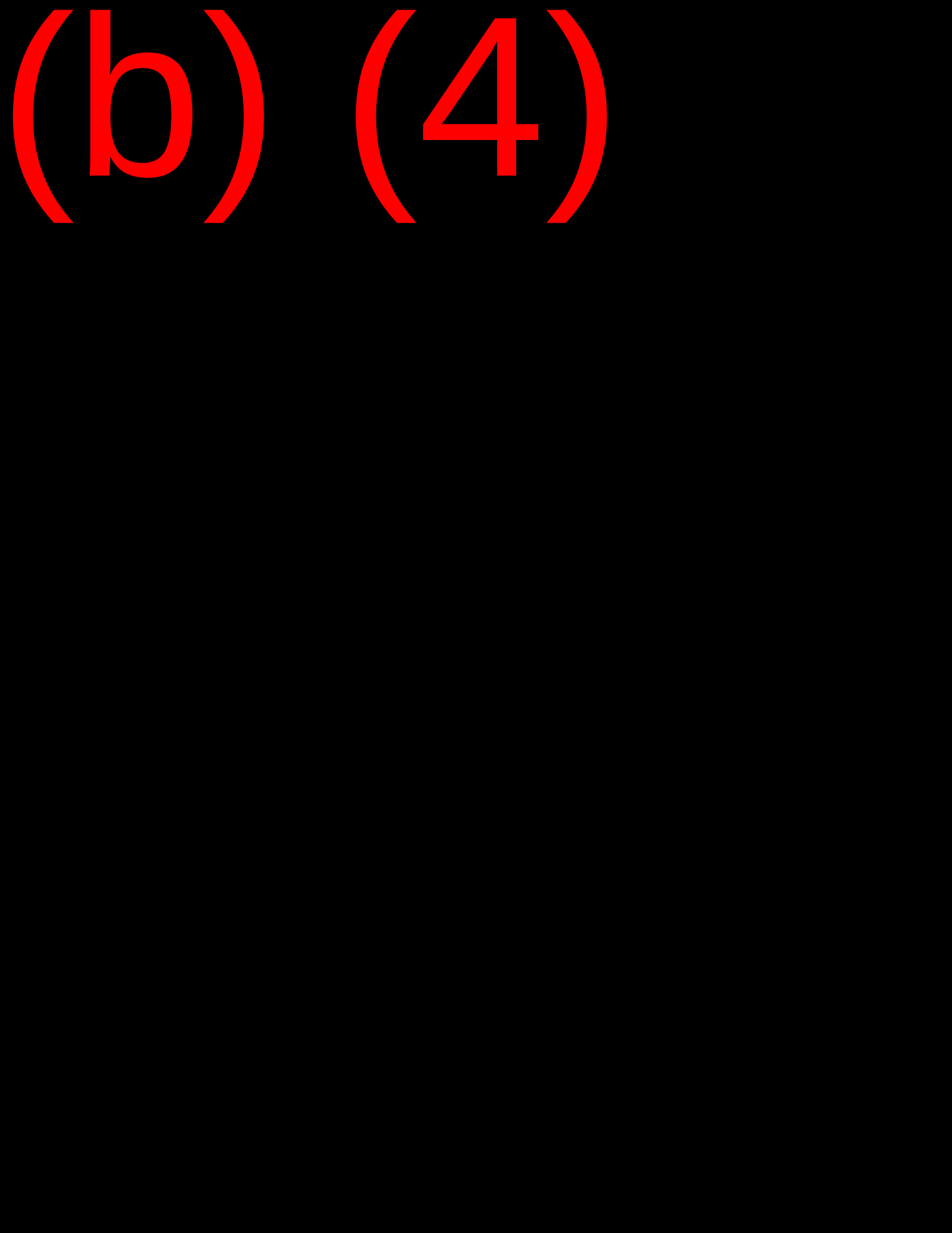


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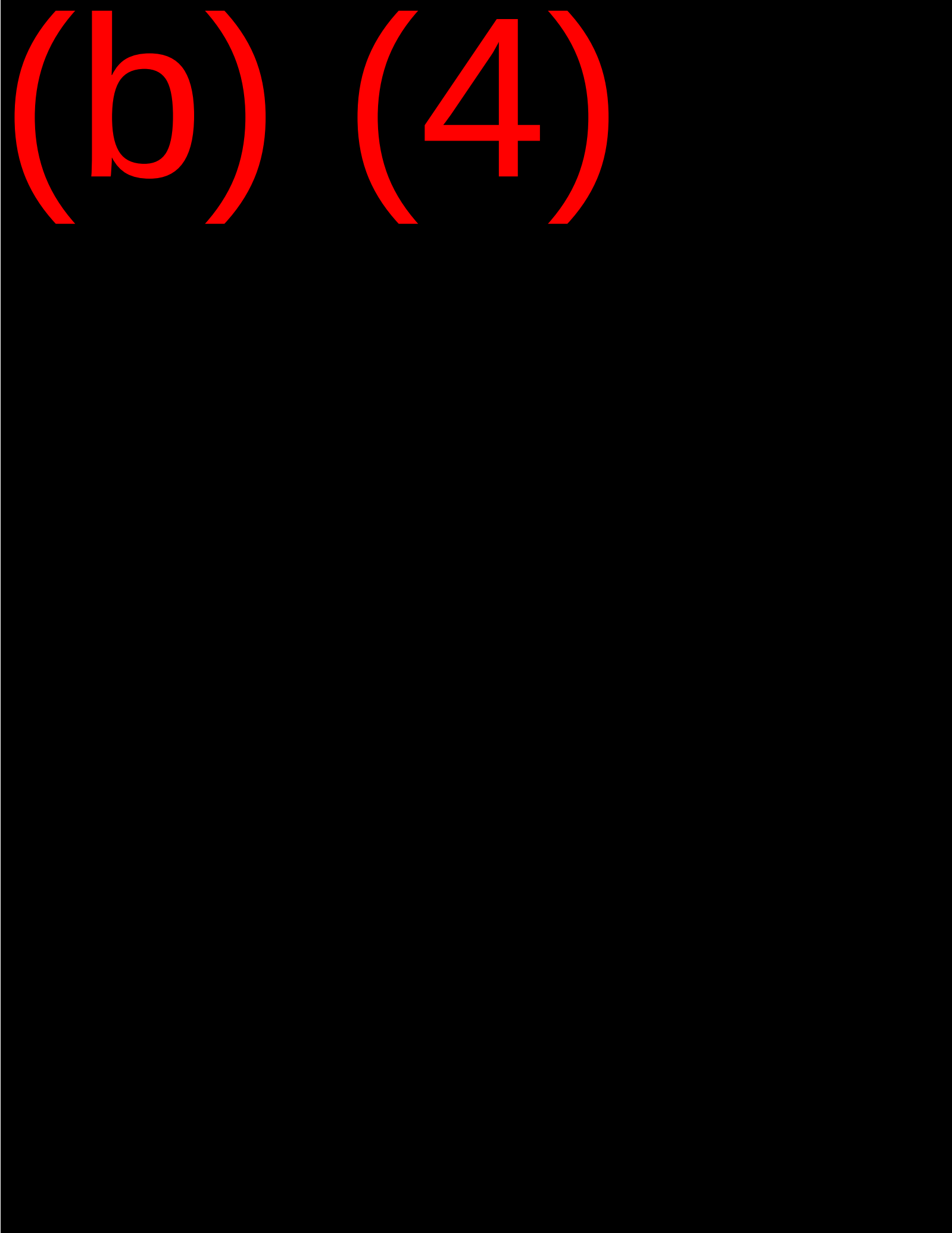


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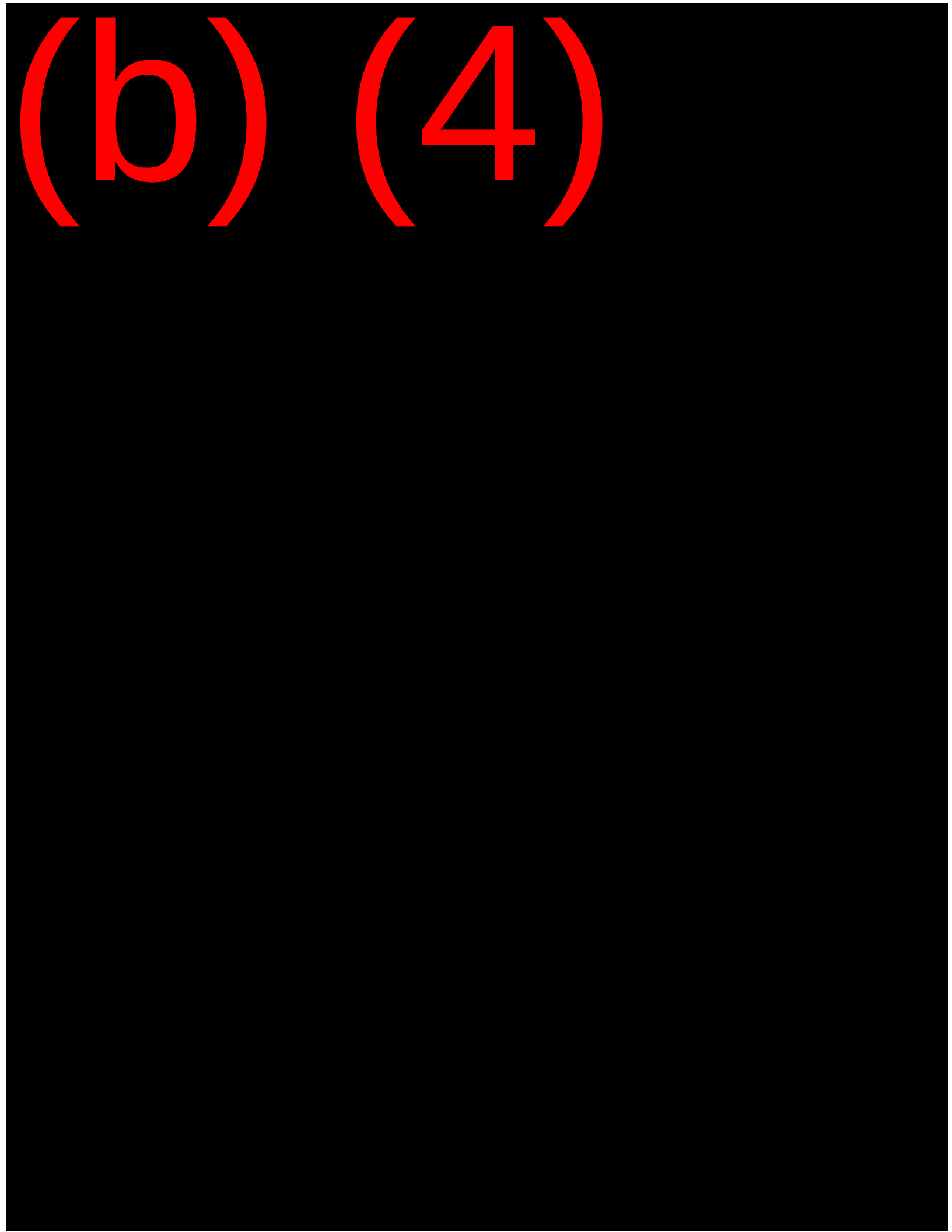
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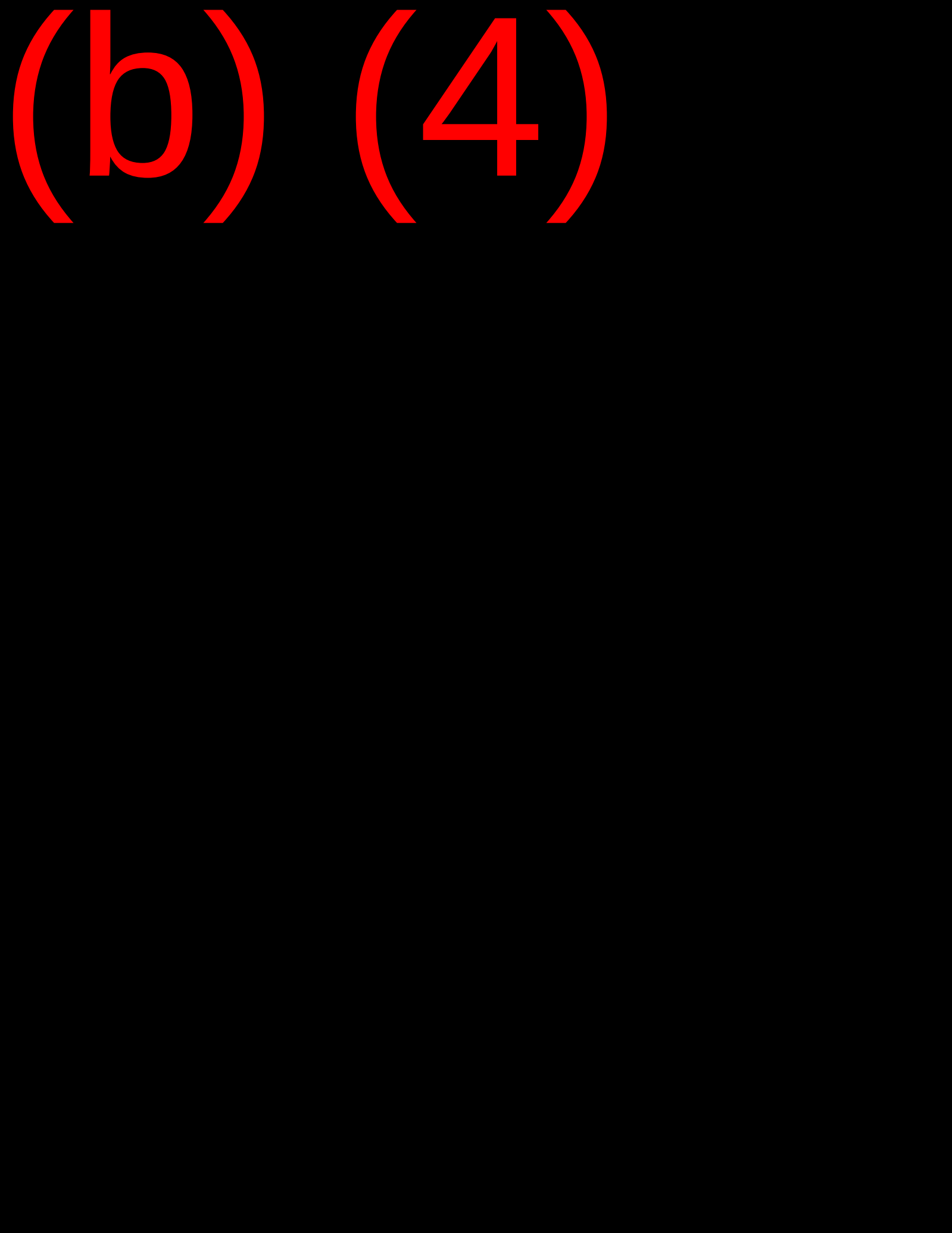
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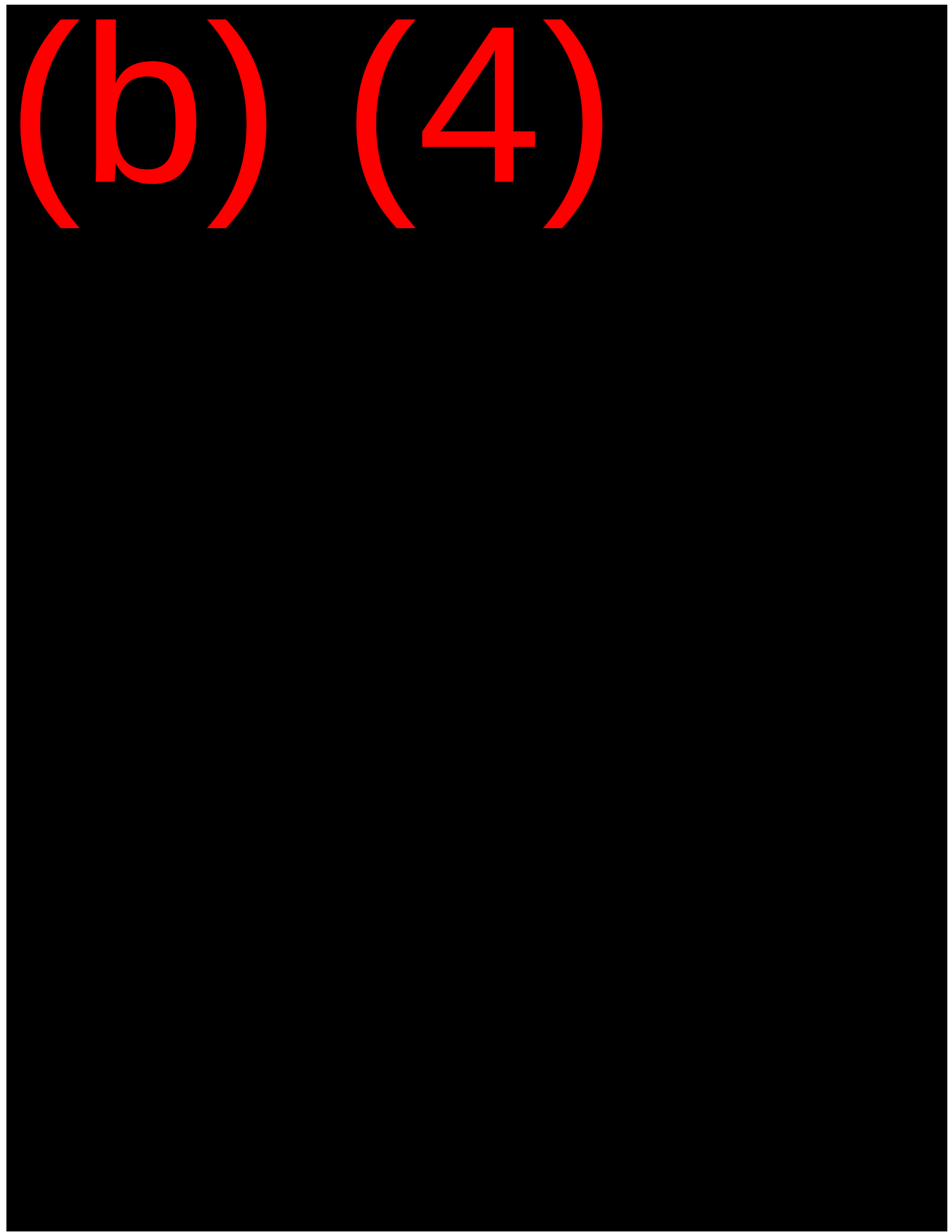
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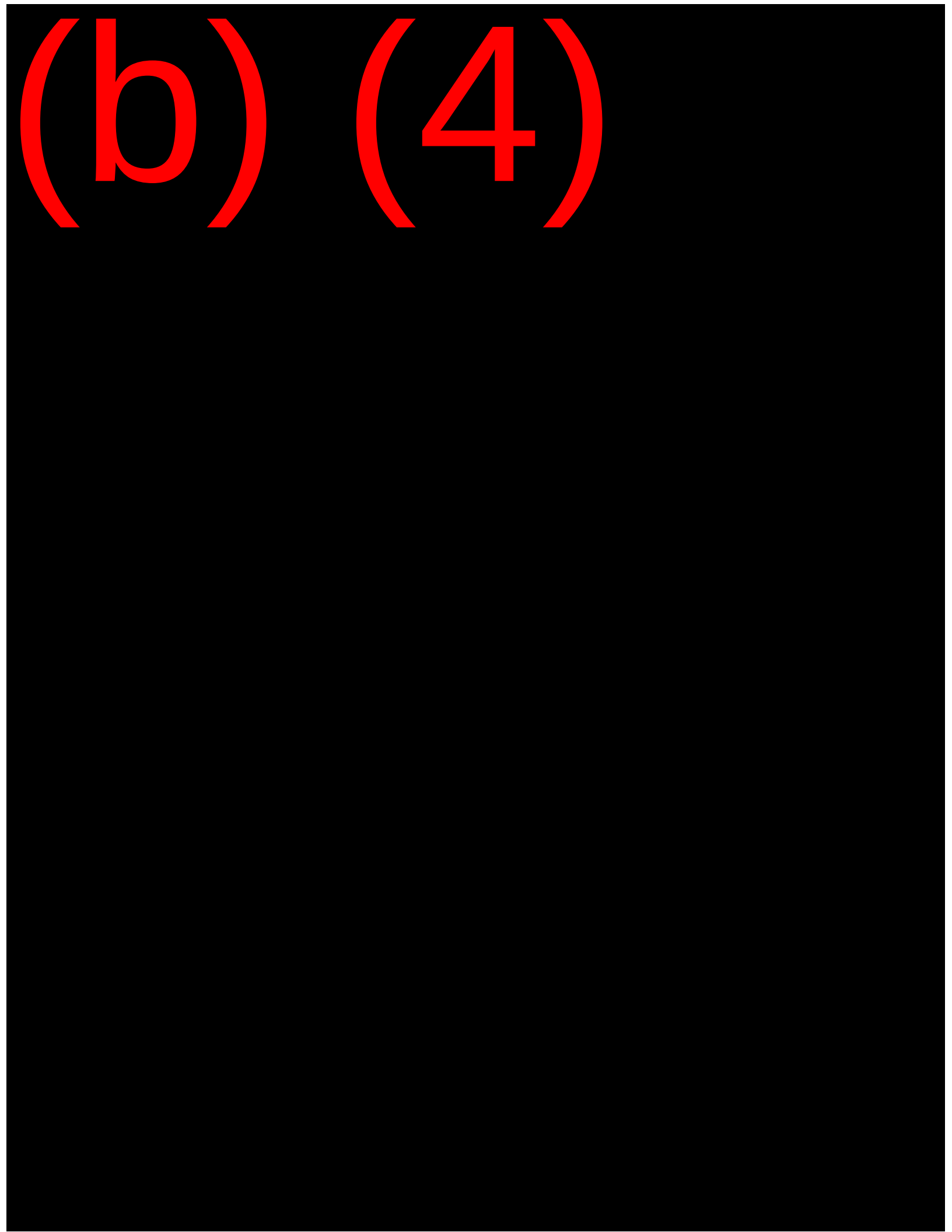
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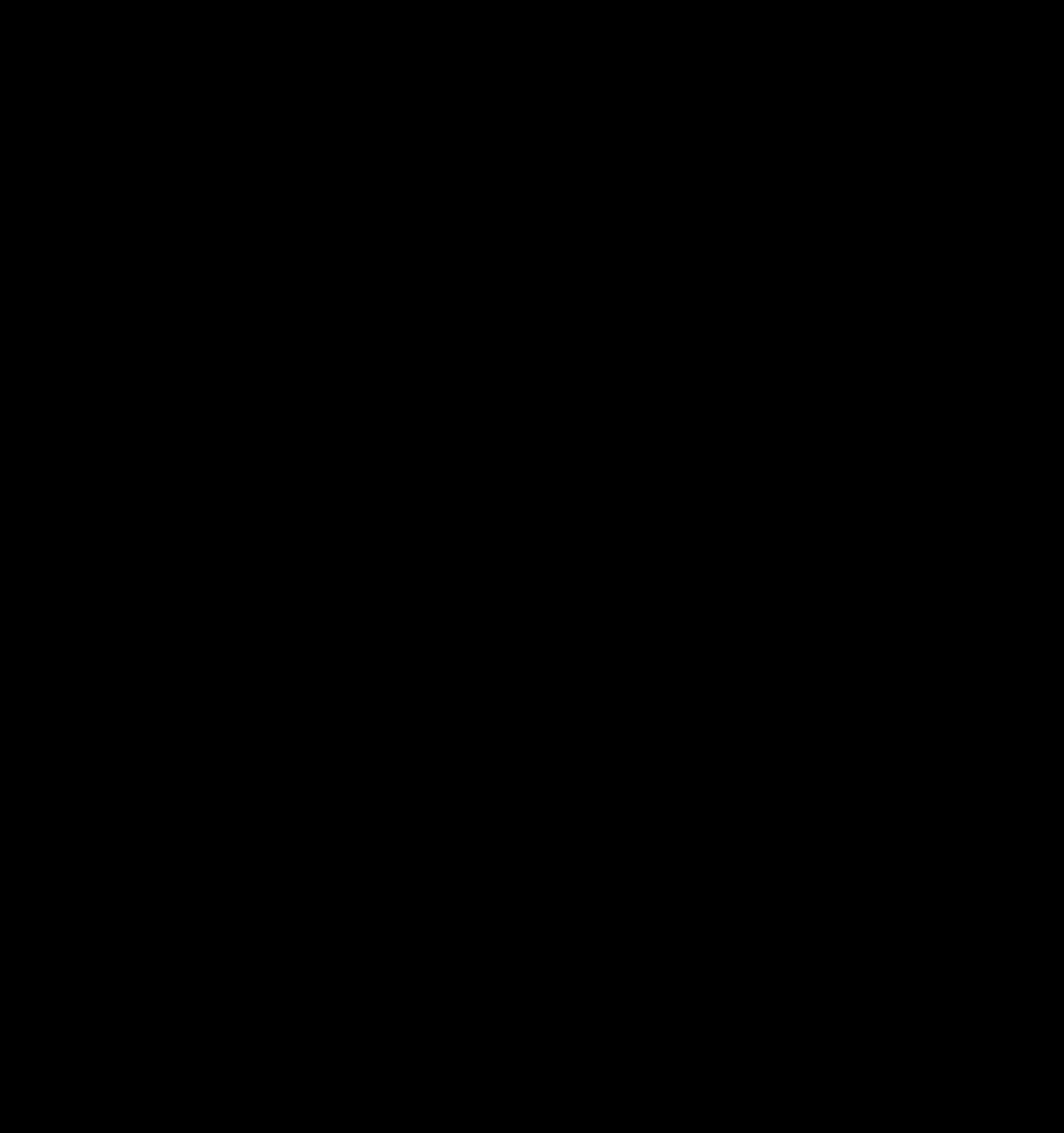
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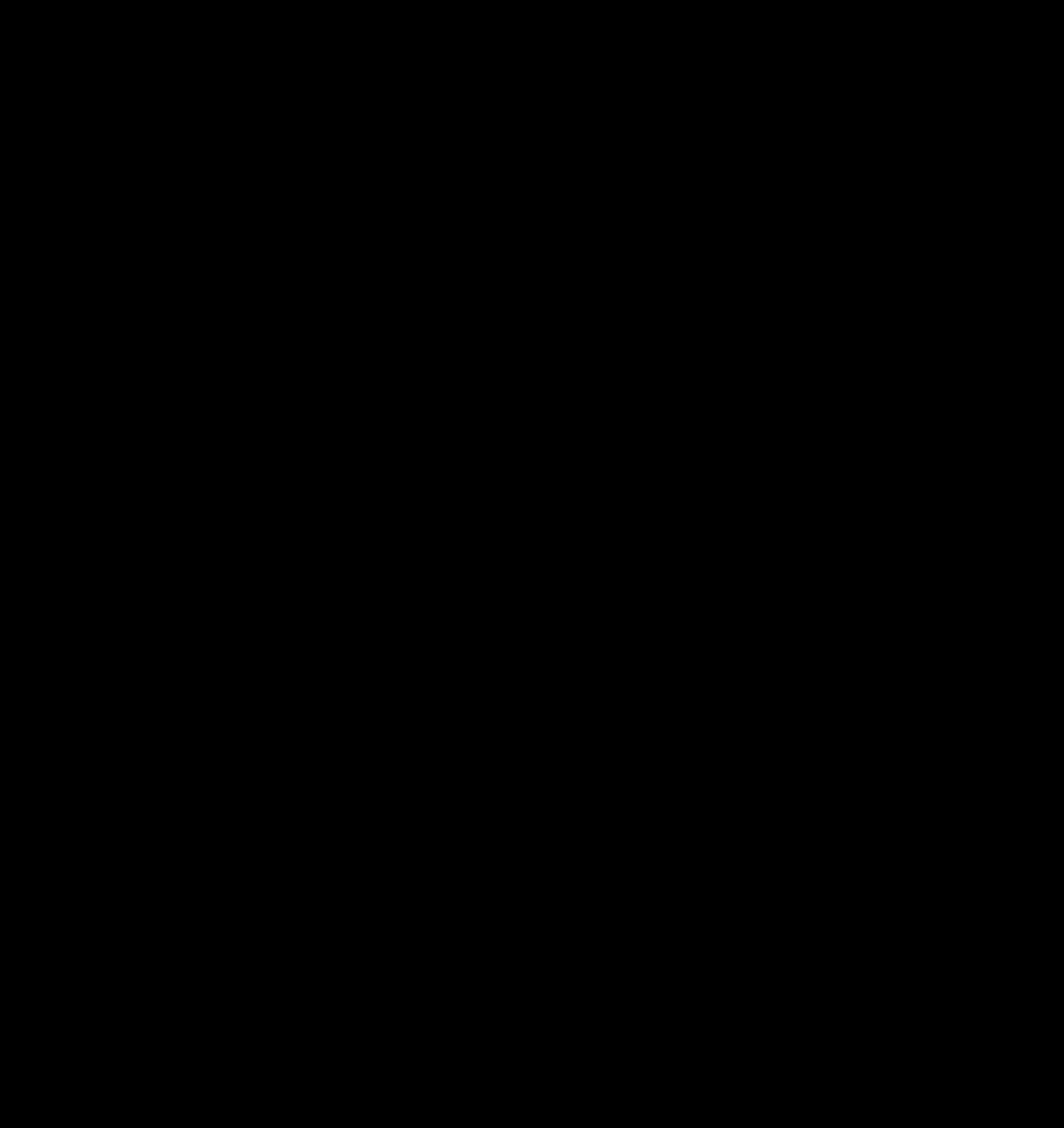
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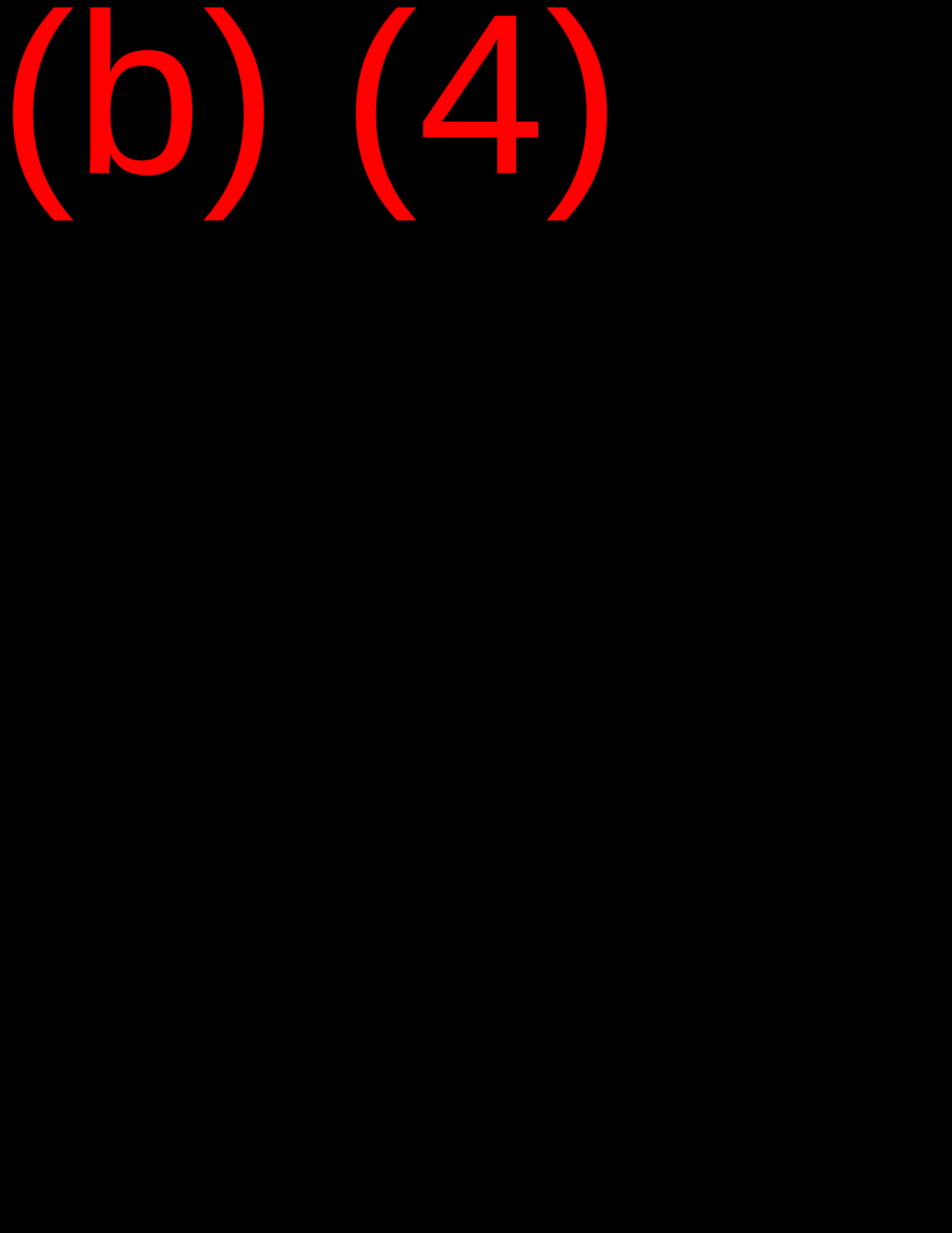
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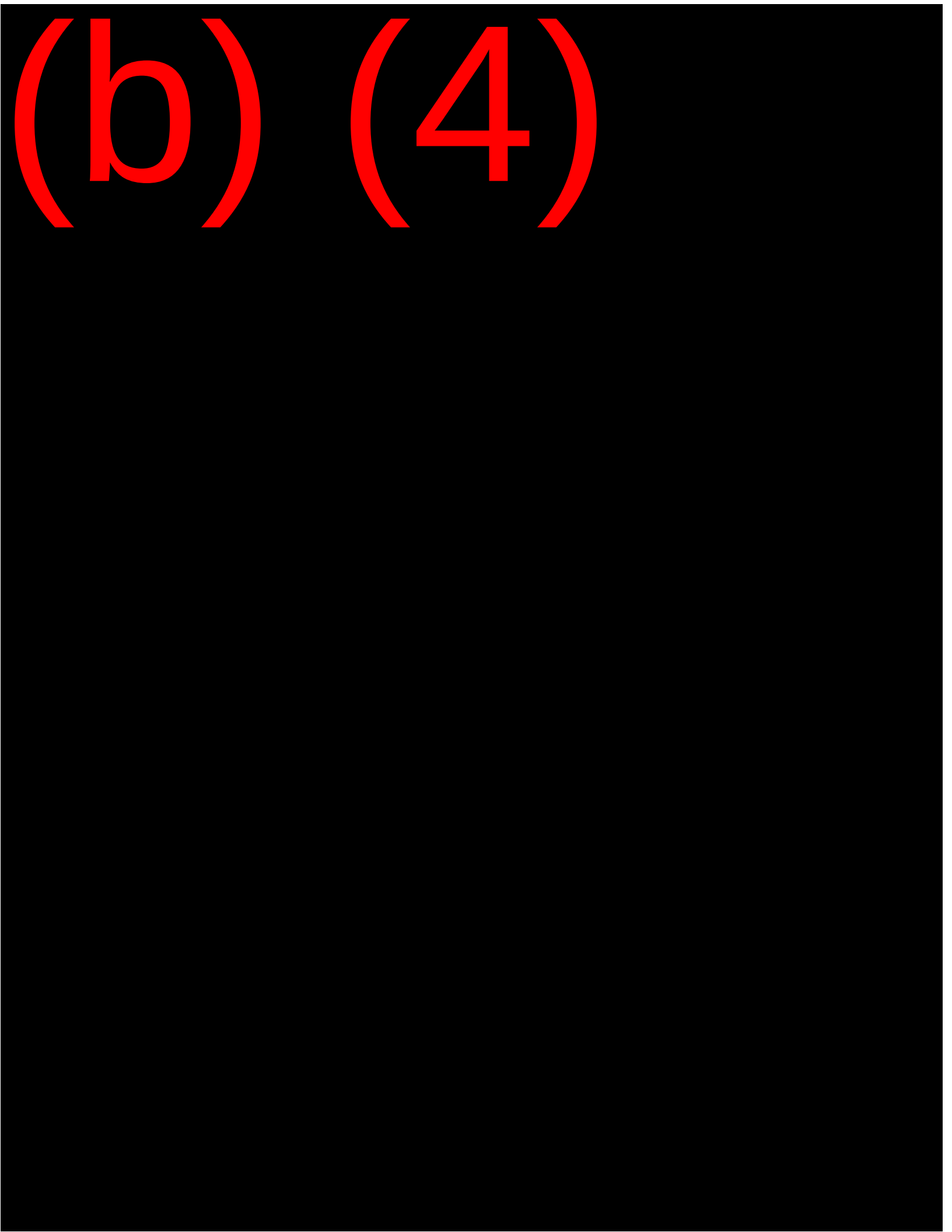


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Caution!

****Don't click on links or attachments unless you trust the sender. This email came from an external source.****

CLIN 0004

----- Forwarded message -----

From: Frank Coppersmith (b) (6)@smarterreality.io>

Date: Tue, Mar 7, 2023 at 12:58 PM

Subject: Conflict Resolution Simulator (FA864922P1122) - CLIN 04

To: (b) (6) Civ USAF USAFA HQ/CCLD (b) (6) >, (b) (6) USAF USAFA HQ/CCLD (b) (6), (b) (6) USAF USAFA CCLD (b) (6)

Cc: Frank Coppersmith (b) (6)@smarterreality.io>, (b) (6) (b) (6)@smarterreality.io>

Hello (b) (6) and (b) (6),

I hope this note finds you well. I wanted to share with you a brief video overview of CLIN 0004: Functional Design for the VR Environment.

The video (with sound) can be watched here: (b) (4)

As you can see video, we can adjust a number of conditions: cadet demographic and rank, location, cadet response, topics and more. Also, note how we are surfacing the conversation notes (e.g. options for follow up questions) by just having the cadet turn their head to the right.

Let me know if you have some time to provide feedback as we continue with ongoing development.

Regards,

Frank

(b) (6)

Caution!

****Don't click on links or attachments unless you trust the sender. This email came from an external source.****

CLIN 0005

----- Forwarded message -----

From: **Frank Coppersmith** (b) (6)@smarterreality.io>

Date: Wed, May 31, 2023 at 11:08 AM

Subject: Conflict Resolution Simulator :: CLIN 0005 - Scenario Customization

To: (b) (6) Civ USAF USAFA HQ/CCLD (b) (6),
(b) (6) USAF USAFA HQ/CCLD (b) (6), (b) (6),
(b) (6) USAF USAFA CCLD (b) (6)

Cc: Frank Coppersmith (b) (6)@smarterreality.io>

Hello (b) (6) and (b) (6)

I hope this note finds you well!

I wanted to share with you a video of our CLIN 0005 Deliverable "Scenario Customization Tools."

Link is here: (b) (4)

Please let me know if you have any issues accessing the video.

Also, I'd like to get some time on your calendar to discuss. Our next deliverable is "Playable Version" and I have a number of topics I want to review, specifically:

(1) Use in the Training Environment. We've built a set of tools, but I want to discuss how students and teachers would use CRS so that we can surface them with an appropriate user interface.

(2) Content. We have some interim content; however, ideally we could develop a testing / roll out plan and work with one or more of your team to produce relevant and meaningful content so that students are both engaged and educated.

(3) User Feedback. I'd like to run this past a handful of students for their thoughts; for example, how close would they typically stand or how would they typically approach another cadet?

Thank you! And I'm looking forward to catching up at your convenience.

Regards,

Frank

(b) (6)

Conflict Resolution Simulator

CLIN 0006



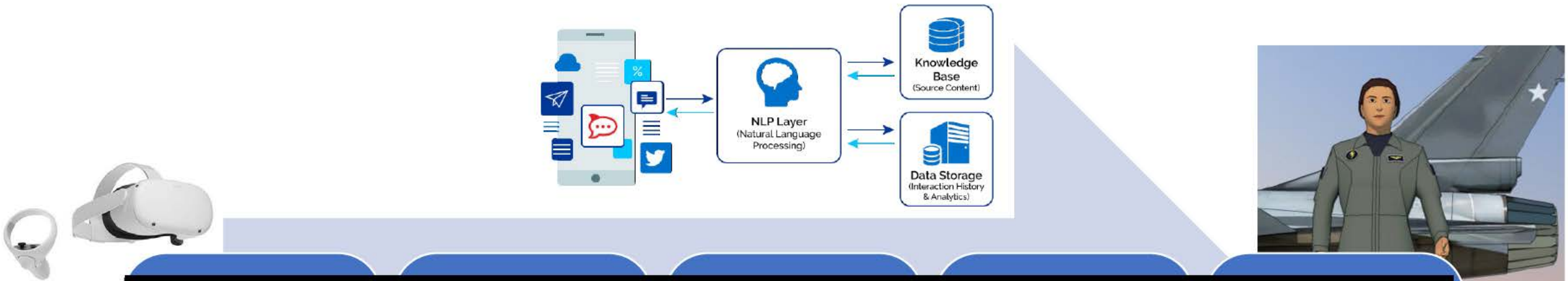
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(b) (4)

CRS Overview - Technology



(b) (4)



(b) (4)

(b) (4)

Phase II Deliverables:

- 1 – Customer Requirements
- 2 – User Interface Design
- 3 – Functional Design - AI
- 4 – Functional Design – VR
- 5 – Scenario Customization
- 6 – Initial Playable [CURRENTLY HERE]**
- 7 – Prototype (Alpha)
- 8 – Final Prototype

*CRS was named a
“Cool New Tool”
Finalist by EdTech
Digest in 2023!*

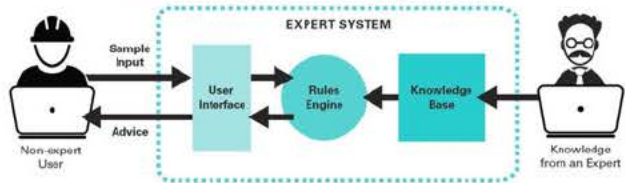


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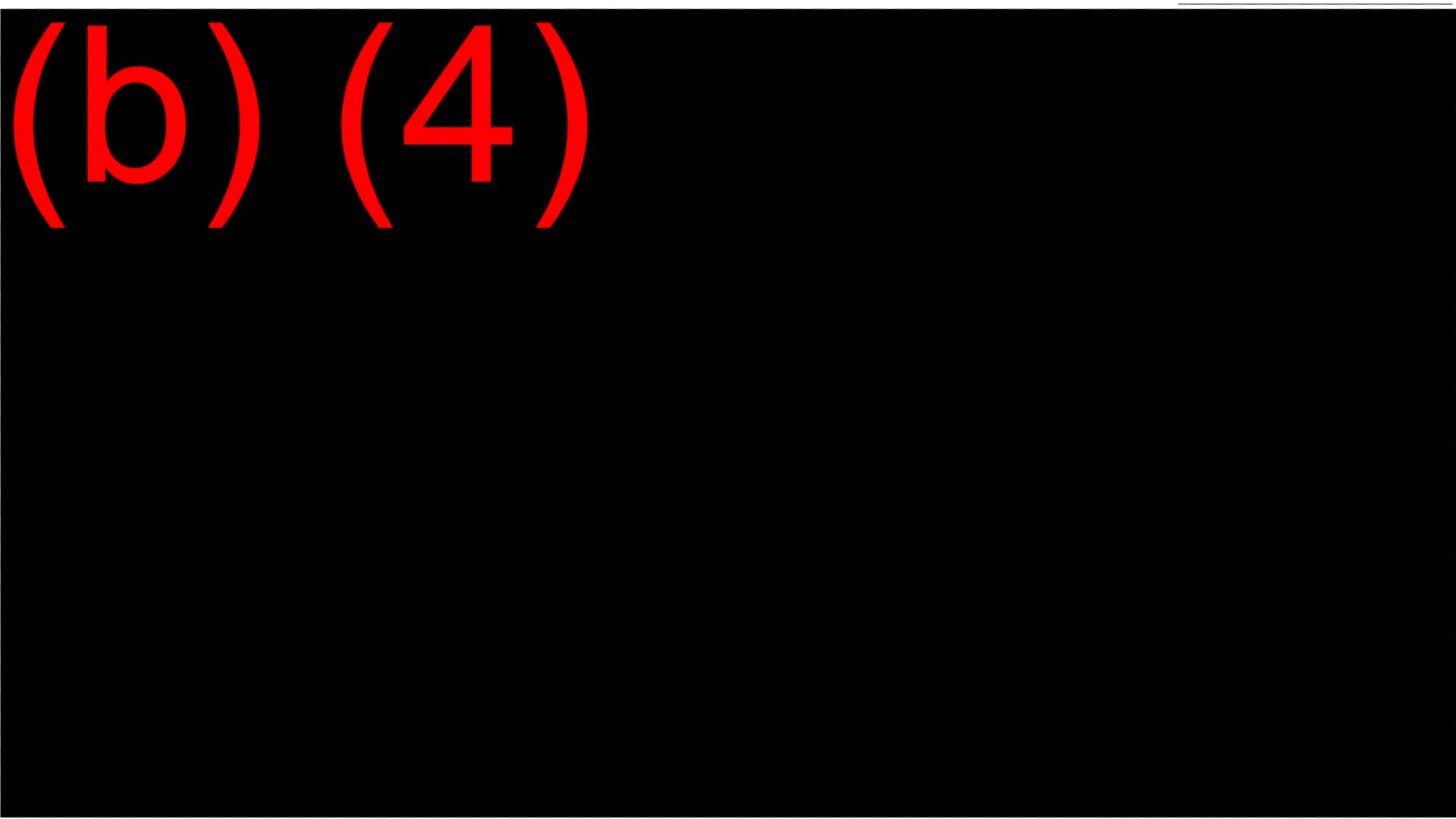
The user inputs information about: the equipment, the component and the oil being tested ... The Expert System does the rest.

 OpenAI



(b) (4)

(b) (4)



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(b) (4)

STRATFI / TACFI

STRATEGIC & TACTICAL FUNDING PROGRAMS



TACFI

\$375K – \$1.9M

STRATFI

\$3M – \$15M

Purpose

- 1 ACCELERATE RELATIONSHIPS**
between Air Force and Space Force end-users and acquisition professionals, private-sector innovators, and investors.
- 2 FACILITATE TRANSITION**
for current SBIR/STTR **Phase II** efforts and **Phase III** scaling efforts to program offices with bridge funding opportunities.

Matching Funds Options

DEFENSE-ONLY		DUAL-USE	
TACFI \$375K – \$1.9M	1:1 SBIR/STTR : Gov*	or	1:1 SBIR/STTR : Private**
STRATFI \$3M – \$15M	1:2 SBIR/STTR : Gov*	or	1:1:2 SBIR/STTR : Gov* : Private**

* Phase III awards within 6 months of submission count toward Gov matching. SBIR funds do not count towards Gov matching. Subcontracts *may* count.
** Eligible third-party funds received after the start of Phase II and within 24 months of submission counts toward Private matching. All funds must be received prior to TACFI award. Funds received during the course of STRATFI count towards match.

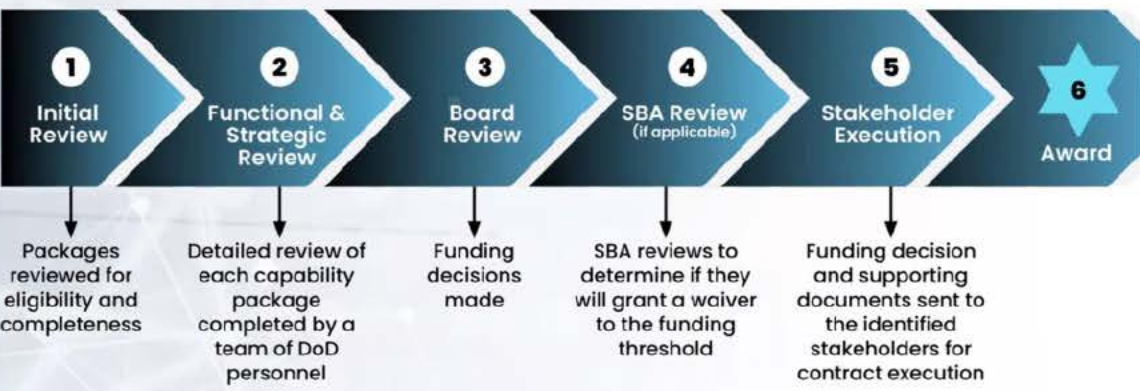
FY22 STRATFI/TACFI Results

- 147 Capability Packages submitted
 - 22 Returned/Ineligible
 - 36 Non-Selects (3 STRATFI / 33 TACFI)
 - 89 Selects (22 STRATFI / 67 TACFI)
 - \$370M in SBIR funds
- Air Force: \$275.4M
- Space Force: \$94.6M
- \$449M in matching government funds
- \$465M in matching private funds

AVERAGE AWARD

\$4.1M SBIR
\$5.0M Gov
\$5.2M Private

Review Process



Sexual Assault at the US Military Service Academies



In 2022, an estimated 21.4% of academy women (and 4.4% of men) have indicated experiencing unwanted sexual contact in the past 12 months, a 28% increase over 2018. Enrolled cadets reported 155 sex assaults occurring during military service, but only about 14% report – meaning that in 2021 1,136 cadets experienced unwanted sexual contact! The Academies are taking immediate measures to address sex assault and harassment, ensuring that “leaders at all levels are championing healthy climates” which includes “educat[ing] cadets and midshipmen.”



SECRETARY OF DEFENSE
1000 DEFENSE PENTAGON
WASHINGTON, DC 20301-1000

MAR 1 0 2023

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
UNDER SECRETARY OF DEFENSE FOR PERSONNEL AND
READINESS

SUBJECT: Actions to Address and Prevent Sexual Assault at the Military Service Academies

As I have emphasized since taking office, I expect every member of our Total Force to be part of the solution to countering sexual assault and harassment. During Academic Program Year 2021-2022 the Military Service Academies (MSA) observed an alarming increase in the estimated prevalence of sexual assault, sexual harassment, and other concerning behaviors. These corrosive behaviors require your immediate attention. The reforms that I have directed, including the implementation of the approved recommendations of the Independent Review Commission on Sexual Assault in the Military, must also take hold at our MSAs.

To that end, I direct the following actions:

- **Conduct On-Site Installation Evaluations (OSIE) at the MSAs.** OSIEs are a critical leadership tool across the Department. These evaluations are designed to identify areas of greatest risk and promise within an organization in order to identify best practices and take targeted action. To better evaluate policy and capabilities intended to prevent self-directed harm and prohibited abusive or harmful acts and make specific recommendations to the local climate, the Under Secretary of Defense for Personnel and Readiness (USD(P&R)) will conduct OSIEs at each of the MSAs. These evaluations must be completed no later than April 30, 2023. The USD(P&R) and MSA Superintendents will brief me on the findings and planned actions no later than July 21, 2023.
- **Develop a MSA implementation plan for the Department's prevention workforce and leadership requirements.** The Secretaries of the Military Departments will direct their respective MSA Superintendents to develop a Plan of Action and Milestones (POA&M) to revise their MSA's operating instructions integrating the new Department of Defense Instruction (DoDI) 6400.11, "DoD Integrated Primary Prevention Policy for Prevention Workforce and Leaders." Draft POA&Ms will be provided to the USD(P&R), through the Office of Force Resiliency (OFR) Violence Prevention Cell, no later than September 30, 2023. Final POA&Ms incorporating OFR feedback, will be provided to the USD(P&R), through the OFR Violence Prevention Cell, no later than December 31, 2023.
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On 10 Mar 23, the Secretary of Defense [SECDEF] issued a memorandum for the Secretaries of the Military Departments outlining a series of “Actions to Address and Prevent Sexual Assault at the Military Service Academies.” During the 2021-2022 Academic Year, military service academies **“observed an alarming increase in the estimated prevalence of sexual assault, sexual harassment, ... corrosive behaviors that require [Secretary] immediate attention.”** SECDEF has directed a series of reforms and actions, including 1) on-site evaluations designed to identify areas of greatest risk of self-directed harm and prohibited abusive or harmful acts, 2) implement new prevention workforce and leadership requirements, 3) champion climate assessments to identify, assess and address pockets of risk in cadet units, 4) broaden the skills of MSA leaders to assess and act on climate factors impacting cadets, and 5) implement “return to health” policies to support survivor recovering and integration.

(b) (4)

(b) (4)

Smarter Reality Overview

(b) (4)

(b) (4), (b) (6)



(b) (6)

(b) (6)

SBIR Projects



MOBILE VIDEO GAME FOR RECRUITING GEN Z

TRAINING
FUSION
SIMULATOR



3-D Interactive Training Environment

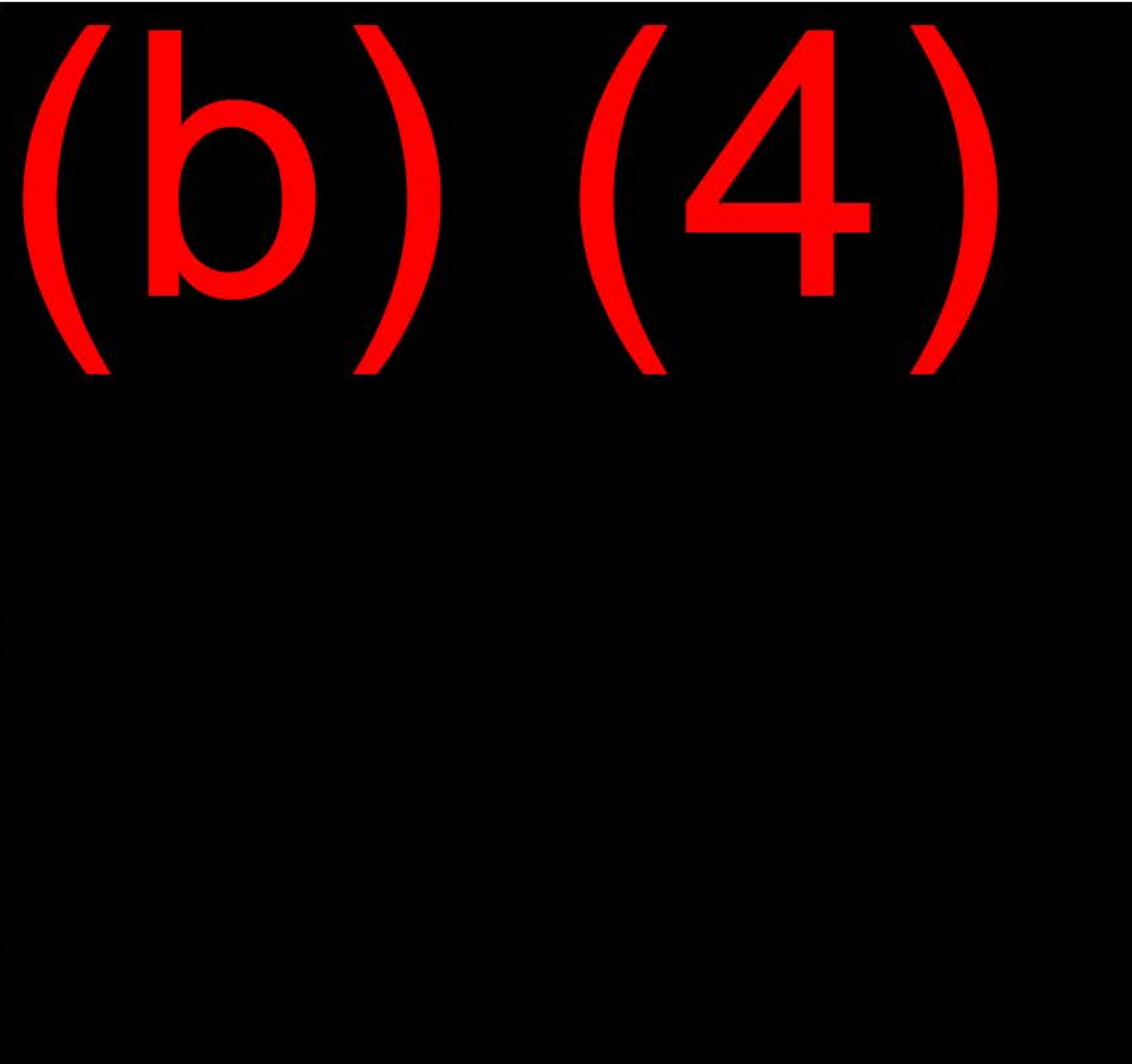


DIGITAL TABLETOP EXERCISE SYSTEM FOR TEAM TRAINING

Conflict
Resolution
Simulator



**Practice Difficult Conversations
with an AI-Enabled Avatar in VR**



Center for Character and Leadership Development

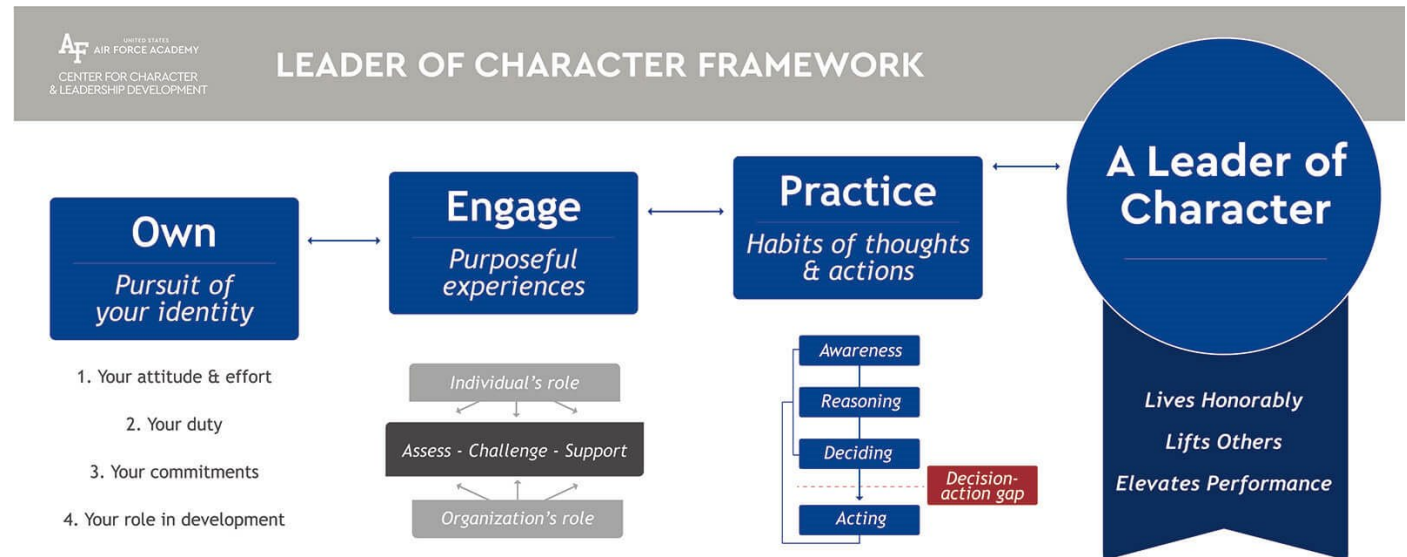
The mission of the Center for Character and Leadership Development is “To serve USAFA by advancing character and leadership development in preparation for service to the nation.” These words encompass the broad range of activities for which the CCLD is responsible, with a singular focus of advancing character and leadership development. USAFA’s strategic goal #1 is to develop leaders of character in service to our nation. The CCLD is the primary integrator of character and leadership development for USAFA.

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The CCLD’s activities and initiatives are grounded in the Leader of Character Framework, creating an environment where cadets and faculty own, engage, and practice the habits of honorable thoughts and actions in line with an identity of a leader of character.

The framework defines a “leader of character” as someone who:

- *Lives honorably by consistently practicing the virtues embodied in the Core Values;*
- *Lifts others to their best possible selves; and,*
- *Elevates performance toward a common and noble purpose.*





9 Feb 23

RE: FA864922P1122, CLIN 0007

AFWERX Team:

CLIN 0007, "Deliver Prototype Complete in an Alpha State" was provided to our end user, the USAF Academy digitally on the Academy's Oculus virtual reality headset. Academy representatives were able to use the headset to experience the simulation.

Please find below some images from the most recent deliverable:



Virtual cadet avatars inside the "gym" environment.



Virtual gym at the USAF Academy.





New office environment.

Regards,

(b) (6)

Frank Coppersmith

(b) (6)





13 Apr 24

RE: Conflict Resolution Simulator Demo

(b) (4)





28 Jun 24

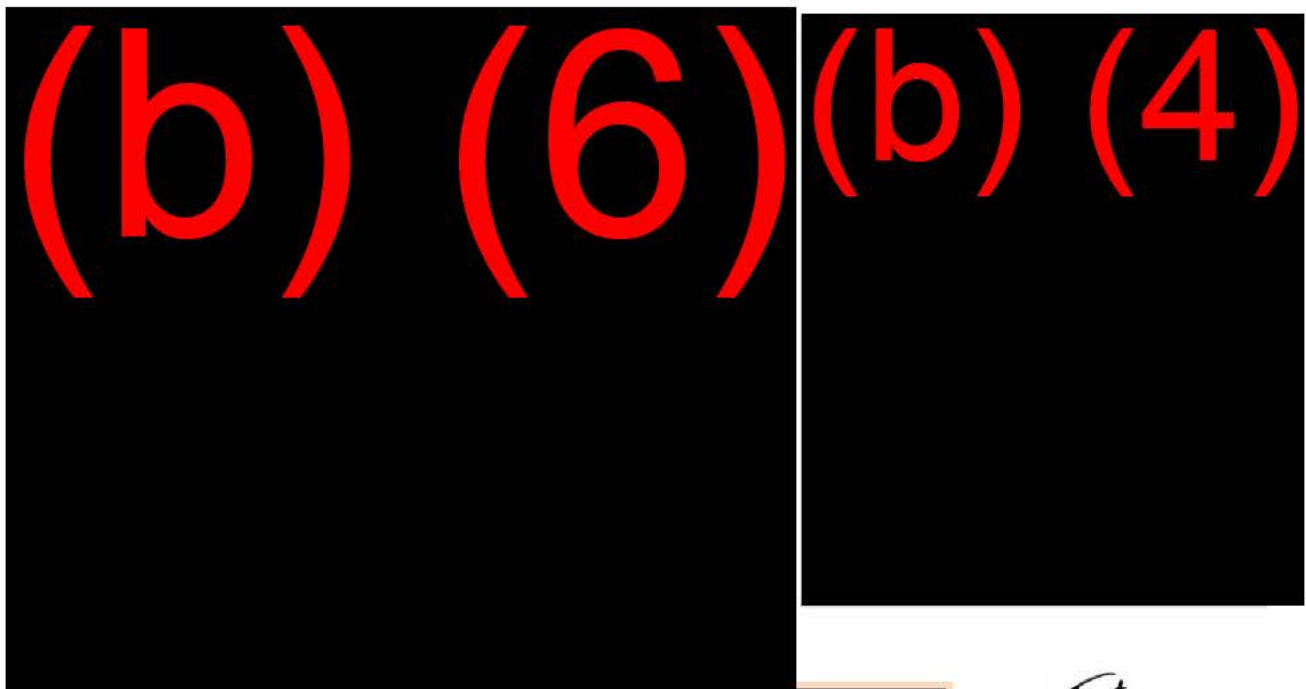
RE: Conflict Resolution Simulator – Summary Report
FA864922P1122

(b) (4)



Benefits to the Government: The USAF Academy can use CRS to address sex assault and harassment, honor violations, and cadet leadership, ensuring that “leaders at all levels are championing healthy climates.” Other use cases include: 1) improving mental health of cadets by exposing them to emotionally charged, virtual situations that trigger real emotions in a controlled, safe environment for treatment, and 2) preparing leaders and investigators for difficult interviews, such as with child victims or victims of sexual assault. The Simulator’s conversational companions can serve any of these roles; CRS will make it possible to produce, curate and distribute this content.

Benefits to the Private Sector: US employees average over two hours a week dealing with interpersonal conflict at work. That translates to about \$359 billion (or 385 million days) lost each year. The source of these workplace conflicts is poor communication, as misunderstandings and ineffective supervisor relationships create unproductive interactions. 85% of individuals experience serious conflict at work and 29% say they are in constant conflict with others. Half of these conflicts are caused by personal issues; as such, conflict is inevitable and must be managed rather than avoided. Training is key: among those US employees that have had conflict resolution training, 95% report it helped them reach good outcomes, with 27% of those trained being more confident dealing with disputes. Commercial uses include: 1) allowing front-line workers to practice good communication to difficult customers, 2) engaging “opportunity youth” with interview training to increase student job prospects, 3) providing law enforcement trainers with a “portfolio of interactive characters” to help police officers improve their interactions with the public, and 4) practice for litigators on difficult trial skills such as cross-examination and depositions.



**THE AMERICAS'
FASTEST GROWING
COMPANIES 2024**



Conflict Resolution Simulator Final Report



smarterreality.io



Phase II Objective

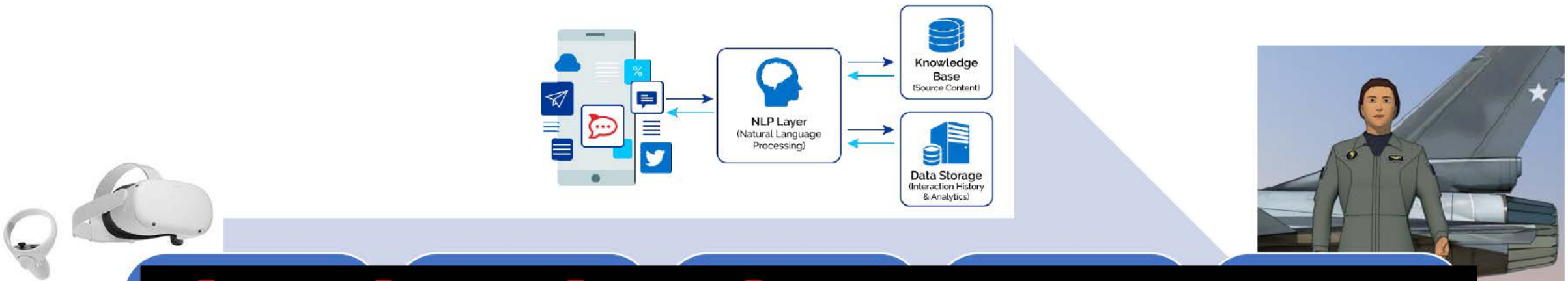
Smarter Reality shall produce *a Conflict Resolution Simulator prototype software deployed as an interactive dialogue-driven trainer that uses a blend of virtual reality and natural language processing (including voice recognition via speech-to-text)* to empower individuals to improve communication and collaboration by privately rehearsing simulated mission-essential conversations with an artificially intelligent (AI) virtual companion (with customizable behaviors, goals and mannerisms via expert system AI) on topics related to honor, diversity/equity/inclusion, and leadership.

(b) (4)

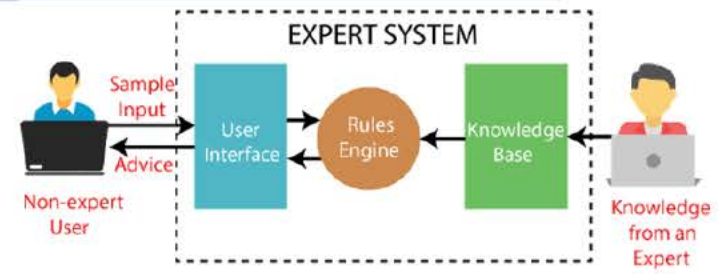
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CRS Overview - Technology



(b) (4)



(b) (4)

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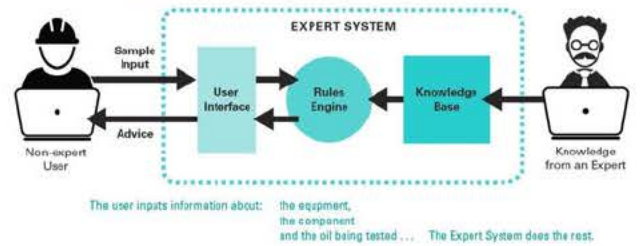
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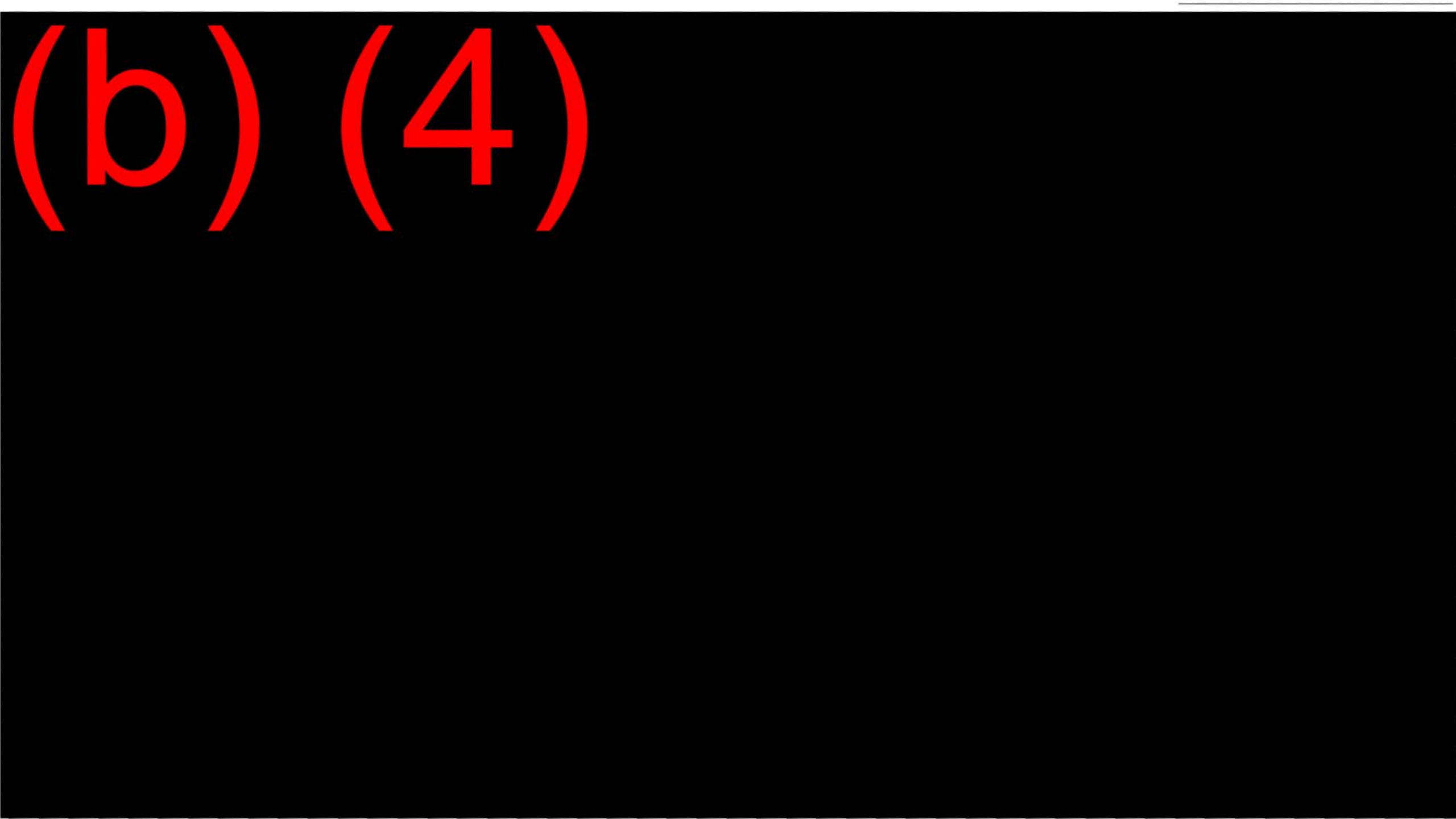
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Sexual Assault at the US Military Service Academies



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SECRETARY OF DEFENSE
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WASHINGTON, DC 20301-1000

MAR 10 2023

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UNDER SECRETARY OF DEFENSE FOR PERSONNEL AND
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(b) (4)

(b) (4)

(b) (4)



(b) (6)

(b) (6)

SBIR Projects



MOBILE VIDEO GAME FOR RECRUITING GEN Z

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3-D Interactive Training Environment

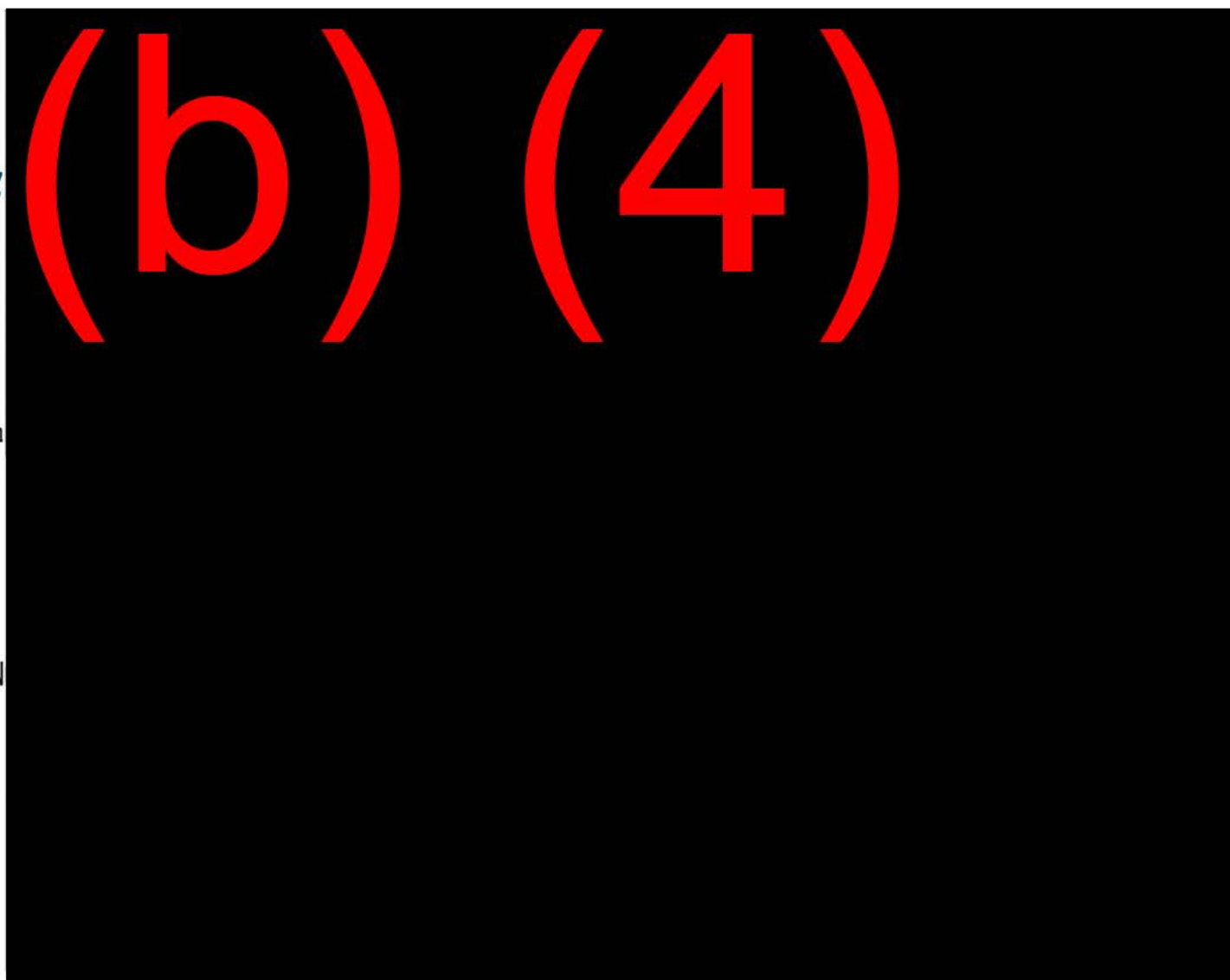


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Conflict
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Practice Difficult Conversations with an AI-Enabled Avatar in VR



Center for Character and Leadership Development

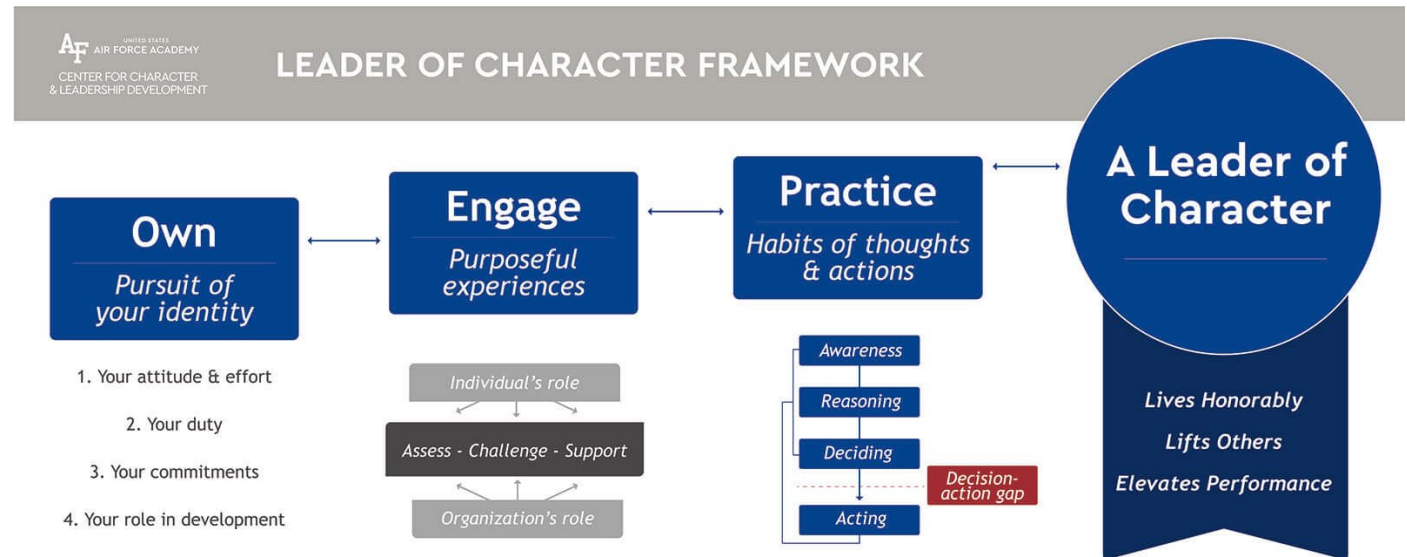
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- *Lifts others to their best possible selves; and,*
- *Elevates performance toward a common and noble purpose.*





Proposal: F2-15847

CONTRACTING ONLY: For questions about this evaluation, contact (b) (6) @afwerx.af.mil or (b) (6) @afwerx.af.mil**SBIR/STTR Phase I or II Technical Evaluation**

Company: Smarter Reality, LLC, 2121 Hilton Head Round Rock, TX	Topic Number: AF212-CSO1	Proposal Number: F2-15847
CAI: 0	Phase: Phase II	Solicitation: 21.2
Proposal Title: Conflict Resolution Simulator: Empowering Rising USAF Leaders with an AI-Enabled Virtual Reality Simulation to Practice Difficult Conversations (Mentoring, Diversity and Inclusion, Honor)	Basic cost proposed: \$749,895.84 Total proposed cost: \$749,895.84	Duration (Year 1): 15 Total duration: 15

Proposal Evaluation

A. The potential for Government or private sector commercialization and benefits expected to accrue from commercialization.

The SBC's record of commercializing SBIR or other research, as indicated by pre-sales, pilots, sales, revenue, active users, subscriptions, downloads, and/or other forms of traction/adoption.

The existence of Phase II follow-on commitments for the subject research, and funding commitments related to the subject effort, whether from Government sources, as documented in the DAF Customer Memorandum, or private sources, as documented through a letter of commitment, are evidence of commercialization potential.

A sound transition strategy in the DAF Customer Memorandum is also evidence of commercialization potential.

(b) (5) **Evaluator:**(b) (6)**Initial evaluation Questions**

1	Is the proposed POP (Period of Performance) within 15 months as defined by the solicitation? (12 months technical effort and 3 months reporting)	(b) (5)
2	Is the cost within \$750,000.00 as defined by the solicitation?	(b) (5)
3	Is the proposed solution relevant to the specified topic?	(b) (5)
4	Does the proposal contain all the required documentation as defined by the solicitation?	(b) (5)

Features

(b) (5)

Needs Improvement

(b) (5)

B. The appropriateness, relevance, and specificity of an identified Defense Need. A complete and



compelling DAF Customer Memorandum (using the mandatory template provided at Attachment 1), signed

by an appropriate DAF Customer and End-User, indicates the appropriateness, relevance, and specificity of an

identified Defense Need. While not required, signed letters of interest from other Government personnel may

be indicators of the appropriateness, relevance, and specificity of an identified Defense Need.

Adequacy of the

proposed effort and its relationship to fulfilling the identified Defense Need.

(b) (5) - Evaluator: (b) (6)

Initial evaluation Questions

1	Is the proposed POP (Period of Performance) within 15 months as defined by the solicitation? (12 months technical effort and 3 months reporting)	(b) (5)
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4	Does the proposal contain all the required documentation as defined by the solicitation?	(b) (5)

Features

(b) (5)

Needs Improvement

(b) (5)

C. The soundness, technical merit, and innovation of the proposed technical approach, as well as its differentiation from current customer alternatives, and incremental progress toward fulfilling the identified

Defense need. Includes the proposed Principal Investigators'/Project Managers', supporting staff, and

consultants' qualifications to execute the proposed approach.

(b) (5) - Evaluator: (b) (6)

Initial evaluation Questions

1	Is the proposed POP (Period of Performance) within 15 months as defined by the solicitation? (12 months technical effort and 3 months reporting)	(b) (5)
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Features

(b) (5)

Needs Improvement

(b) (5)



(b) (5)		(5)	
Verification and cost realism			
1 Is the proposed material/ equipment appropriate for the proposed technical effort (if applicable)?		(b) (5)	
2. Is the proposed number of personnel, labor skill mix, and number of hours appropriate for the proposed technical effort?		(b) (5)	
3. Are the proposed specialized efforts, such as machining, milling, special testing or analysis, lease of special equipment appropriate for the proposed technical effort (if applicable)?		(b) (5)	
4 Is proposed travel, including destinations and number of travelers, appropriate for the technical effort to be accomplished (if applicable)?		(b) (5)	
5 Is the use of subcontractors/consultants appropriate for the proposed technical effort (if applicable)?		(b) (5)	
6 Is the use of special tooling/special test equipment and material appropriate for the proposed technical effort (if applicable)?		(b) (5)	
Overall Comment			
(b) (5)			
THIS EVALUATION HAS BEEN FINALIZED.			
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