

**GOVERNMENT OF INDIA
DEPARTMENT OF SPACE
SEMI-CONDUCTOR LABORATORY (SCL)
CHANDIGARH**

**Tender for Secondary Ion Mass Spectroscopy (SIMS)
Analysis/Measurement**

Bids to be submitted online

Tender No.: SCL/PurUnit-2/SC202100016001 dated 21-12-2021

A. Tender Details

Tender No : **SCL/PurUnit-2/SC202100016001**

Tender Date : **21-12-2021**

Tender Classification: **SERVICES**

Purchase Entity : **PurUnit-2**

Centre : **SEMI-CONDUCTOR LABORATORY (SCL)**

Procurement of Secondary Ion Mass Spectroscopy (SIMS) Analysis/Measurement

Tender for Procurement of Secondary Ion Mass Spectroscopy (SIMS) Analysis/Measurement is released herewith. Interested vendors may submit their bids as per schedule mentioned in the Tender.

A.1 Tender Schedule

Bid Submission Start Date : **21-12-2021 17:00**

Bid Clarification Due Date : **27-12-2021 14:30**

Bid Submission Due Date : **18-01-2022 14:30**

Bid Opening Date : **18-01-2022 15:00**

B. Tender Attachments

Technical Write-up/Drawings

Document : SIMS Scope of Work

Instructions To Vendors

2. INSTRUCTIONS TO TENDERERS AND TERMS CONDITIONS OF TENDER

1. (a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.
- (b) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer.
- (c) Specifications: Stores offered should strictly confirm to our specifications. Deviations, if any, should be clearly indicated by the tenderer in his quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary, along with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. Wherever options have been called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us, the tenderer could suggest changes to specifications with appropriate response for the same.

2. ACCEPTANCE OF STORES:

- (a) The stores shall be tendered by the Contractor for inspection at such places as may be specified by the purchaser at the Contractor's own risk, expense and cost.
 - (b) It is expressly agreed that the acceptance of the stores Contracted for, is subject to final approval by the purchaser, whose decision shall be final.
 - (c) If, in the opinion of the purchaser, all or any of the stores do not meet the performance or quality requirements specified in the Purchase Order, they shall be rejected.
 - (d) If the whole or any part of the stores supplied are rejected in accordance with Clause No. 6 (c) above, the purchaser shall be at liberty, with or without notice to the Contractor, to purchase in the open market at the expense of the Contractor stores meeting the necessary performance and quality Contracted for in place of those rejected, provided that either the purchase, or the agreement to purchase, from another supplier is made within six months from the date of rejection of the stores as aforesaid.
3. (a) Your quotation should be valid for 90 days (single part tender) and 120 days (two part tender) from the date of opening of the tender.
 - (b) Prices are required to be quoted according to the units indicated in the annexed tender form. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.

4. Bid shall be submitted on-line only complying specified schedule.

5. COUNTER TERMS AND CONDITION OF SUPPLIERS: Where counter terms and conditions printed or cyclostyled conditions have been offered by the supplier, the same shall not be deemed to have been accepted by the Purchaser, unless specific written acceptance thereof is obtained.

6. DEFINITIONS:

(a) The term PURCHASER shall mean Semi-Conductor Laboratory, Sector-72, Mohali, Punjab-160071, under the administrative control of DOS, Government of India.

(b) The term CONTRACTOR shall mean, the person, firm or company with whom or with which the order for the supply of stores is placed and shall be deemed to include the Contractor's successors, representative, heirs, executors and administrators unless excluded by the Contract.

(c) The term STORES shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order. (d) The term PURCHASE ORDER shall mean the communication signed on behalf of the Purchaser by an Officer duly authorised intimating the acceptance on behalf of the Purchaser on the terms and conditions mentioned or referred to in the said communication accepting the tender or offer of the Contractor for supply of stores or plant, machinery or equipment or part thereof.

7. DELIVERY:

(a) The time for and the date of delivery of the stores stipulated in the Purchase Order shall be deemed to be the essence of the Contract and delivery must be completed on or before the specified dates.

(b) Should the Contractor fail to deliver the stores or any consignment thereof within the period prescribed for such delivery, the purchaser shall be entitled at his option either.

(i) to purchase from elsewhere, without notice to the Contractor on the account and at the risk of the Contractor, the stores not delivered or others of a similar description (where others exactly complying with the particulars, are not, in the opinion of the purchaser, readily procurable, such opinion being final) without cancelling the Contract in respect of the consignment (s) not yet due for delivery, or

(ii) to cancel the Contract or a portion thereof and if so desired to purchase or authorise the purchase of stores not so delivered or others of a similar description (where others exactly if complying with the particulars are not, in the opinion of the purchaser, readily procurable, such opinion final) at the risk and cost of the Contractor. In the event of action being taken under sub-clause (iii) of clause 10 (b) above, the Contractor shall be liable for any loss which the purchaser may sustain on that account, provided that the re-purchase or if there is an agreement to repurchase then such agreement is made within six months from the date of such failure. But the Contractor shall not be entitled to any gain on such re-purchase made against default. The manner and method of such re purchase shall be at the discretion of the purchaser, whose decision shall be final. It shall not be necessary for the purchaser to serve a notice of such re purchase on the defaulting Contractor. This right shall be without prejudice to the right of the purchaser to recover damages for breach of Contract by the Contractor.

8. DESPATCH: The Contractor is responsible for obtaining a clear receipt from the Transport

Authorities specifying the goods dispatched. The consignment should be dispatched with clear Railway Receipt/Lorry Receipt. If sent in any other mode, it shall be at the risk of the Contractor. Purchaser will take no responsibility for short deliveries or wrong supply of goods when the same are booked on said to contain basis. Purchaser shall pay for only such stores as are actually received by them in accordance with the Contract. Any dispatch action shall start only after receipt of purchase order signed by competent authority and as per terms and conditions.

9. EXTENSION OF TIME: As soon as it is apparent that the Contract dates cannot be adhered to, an application shall be sent by the Contractor to the purchaser. If failure, on the part of the Contractor, to deliver the stores in proper time shall have arisen from any cause which the purchaser may admit as reasonable ground for an extension of the time (and his decision shall be final) he may allow such additional time as he considers it to be justified by circumstances, of the case without prejudice to the purchaser's right to recover liquidated damages under clause 09 thereof.

10. GST and/or other duties/levies legally leviable and intended to be claimed should be distinctly shown separately in the tender.

11. INDEMNITY: The Contractor shall warrant and be deemed to have warranted that all stores supplied against this Contract are free and clean of infringement of any Patent, Copyright or Trademark, and shall at all times indemnify the purchaser against all claims which may be made in respect of the stores for infringement of any right protected by Patent Registration of design or Trade mark and shall take all risk of accidents or damage which may cause a failure of the supply from whatever cause arising and the entire responsibility for sufficiency of all means used by him for the fulfilment of the contract.

12. Late tenders and delayed tenders will not be considered.

13. MODE OF PAYMENT: Normally payment will be made for the accepted stores within 30 days from the date of receipt of the materials.

14. PACKING FORWARDING INSURANCE: The Contractor will be held responsible for the stores being sufficiently and properly packed for transport by rail, road, sea or air to withstand transit hazards and ensure safe arrival at the destination. The packing and marking of packages shall be done by and at the expense of the Contractor. The purchaser will not pay separately for transit insurance, all risks in transit being exclusively of the Contractor and the Purchaser shall pay only for such stores as are actually received in good condition in accordance with the Contract

15. PAYMENT: Contractor's bill will be passed for payment only after the stores have been received, inspected and accepted by the Purchaser.

16. PRICES: Tenderer offering firm prices will be preferred. Where a price variation clause is insisted

upon by a tenderer, quotation with a reasonable ceiling should be submitted. Such offers should invariably be supported by the base price taken into account at the time of tendering and also the formula for any such variation/s.

17. RECOVERY OF SUM DUE: Whenever any claim for the payment of, whether liquidated or not, money arising out of or under this Contract against the Contractor, the purchaser shall be entitled to recover such sum by appropriating in part or whole, the security deposited by the Contractor, if a security is taken against the Contract. In the event of the security being insufficient or if no security has been taken from the Contractor, then the balance or the total sum recoverable as the case may be, shall be deducted from any sum then due or which at any time thereafter may become due to the Contractor under this or any other Contract with the purchaser. Should this sum be not sufficient to cover the full amount recoverable, the Contractor shall pay to the purchaser on demand the remaining balance due. Similarly, if the purchaser has or makes any claim, whether liquidated or not, against the Contractor under any other Contract with the purchaser, the payment of all moneys payable under the Contract to the Contractor including the security deposit shall be withheld till such claims of the purchaser are finally adjudicated upon and paid by the Contractor.

18. REJECTED STORES: Rejected stores will remain at destination at the Contractor's risk and responsibility. If instructions for their disposal are not received from the Contractor within a period of 14 days from the date of receipt of the advice of rejection, the purchaser or his representative has, at his discretion, the right to scrap or sell or consign the rejected stores to Contractor's address at the Contractor's entire risk and expense, freight being payable by the Contractor at actuals.

19. SECURITY FOR PURCHASE OF MATERIALS: Successful tenderer will have to furnish in the form of a bank guarantee or any other form as called for by the purchaser towards adequate security for the materials and properties provided by the Purchaser for the due execution of the Contract.

20. TERMS CONDITIONS OF TENDER

21. TEST CERTIFICATE: Wherever required, test certificates shall be uploaded in EGPS.

22. The authority of the person signing the tender, if called for, should be produced.

23. The Purchaser reserves the right to place order on the successful tenderer for additional quantity up to 25% of the quantity offered by them at the rates quoted.

24. The purchaser shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portions of the quantity offered and the tenderers shall supply the same at the rates quoted.

25. The tenderer should supply along with his tender, the name of his bankers as well as the latest

Income-Tax clearance certificate duly countersigned by the Income-Tax Officer of the Circle concerned under the seal of his office, if required by the Purchaser.

C. Bid Templates

C.1 Technical Bid - Secondary Ion Mass Spectroscopy (SIMS) Analysis/Measurement

1. Secondary Ion Mass Spectroscopy (SIMS) Analysis/Measurement for Si/SiGe/Si Samples(NA)

Item specifications for Secondary Ion Mass Spectroscopy (SIMS) Analysis/Measurement for Si/SiGe/Si Samples

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Secondary Ion Mass Spectroscopy (SIMS) Analysis/Measurement for Si/SiGe/Si samples (SCL Material Code 210296524)		-		

Document : SIMS-Indent

2. Secondary Ion Mass Spectroscopy (SIMS) Analysis/Measurement for AlGaIn/GaN/AlGaIn samples(NA)

Item specifications for Secondary Ion Mass Spectroscopy (SIMS) Analysis/Measurement for AlGaIn/GaN/AlGaIn samples

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Secondary Ion Mass Spectroscopy (SIMS) Analysis/Measurement for AlGaIn/GaN/AlGaIn samples (SCL Material code 210296525)		-		

Document : SIMS-Indent

3. Secondary Ion Mass Spectroscopy (SIMS) Analysis/Measurement for Binary and Ternary III-V layers with Mixed Arsenide/Phosphide Structures(NA)

Item specifications for Secondary Ion Mass Spectroscopy (SIMS) Analysis/Measurement for Binary and Ternary III-V layers with Mixed Arsenide/Phosphide Structures

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Secondary Ion Mass Spectroscopy (SIMS) Analysis/Measurement for Binary and Ternary III-V layers with Mixed Arsenide/Phosphide Structures (SCL Material Code 210296526)		-		

Document : SIMS-Indent

Common Specifications (Applicable for all items)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Scope of work: SIMS depth profile of Si/SiGe/Si substrate with Ge composition in the range of 20-30% with SiGe layer thickness in the range of 10-50nm.	SIMS analysis on Si/SiGe/Si samples for the following elements <ul style="list-style-type: none"> •Elemental analysis of Carbon (C) •Elemental analysis of Oxygen (O) • Elemental analysis of Silicon (Si) •Elemental analysis of Boron (B) •Elemental analysis of Germanium (Ge) composition •Vendor should take care of appropriate sample mounting and surface cleaning of the samples/wafers. 	Yes / No / Explain		

2	Scope of work:SIMS depth profile of AlGa _N /Ga _N /AlGa _N layers with Al composition between 5%-75% and thickness between 10 nm to few microns.	<p>SIMS analysis of following elements</p> <ul style="list-style-type: none"> •Elemental analysis of Hydrogen (H) in AlGa_N/Ga_N/AlGa_N samples •Elemental analysis of Carbon (C) in AlGa_N/Ga_N/AlGa_N samples • Elemental analysis of Oxygen (O) in AlGa_N/Ga_N/AlGa_N samples •Elemental analysis of Silicon (Si) in AlGa_N/Ga_N/AlGa_N samples • Elemental analysis of Magnesium (Mg) in AlGa_N/Ga_N/AlGa_N samples • Elemental analysis of Zinc (Zn) in AlGa_N/Ga_N/AlGa_N samples •Elemental analysis of Al/Ga/In composition in AlGa_N/Ga_N/AlGa_N samples. •Vendor should measure the depth profile deeper than 3µm or more. •Vendor should measure the interfacial purity/contamination of the wafers/samples. •Vendor should take care of appropriate sample mounting and surface cleaning of the samples/wafers. 	Yes / No / Explain		
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3	Scope of work:SIMS depth profile of Binary and Ternary III-V layers with mixed arsenide/phosphide structure.	<p>SIMS analysis of following elements</p> <ul style="list-style-type: none"> •Elemental analysis of Carbon (C) Binary and Ternary III-V layers with mixed arsenide/phosphide structure •Elemental analysis of Oxygen (O) in Binary and Ternary III-V layers with mixed arsenide/phosphide structure. •Elemental analysis of Silicon (Si) in Binary and Ternary III-V layers with mixed arsenide/phosphide structure. • Elemental analysis of Hydrogen (H) in Binary and Ternary III-V layers with mixed arsenide/phosphide structure. •Elemental analysis for Magnesium (Mg) in Binary and Ternary III-V layers with mixed arsenide/phosphide structure. • Elemental analysis of Zinc (Zn) with Group III/V composition in Binary and Ternary III-V layers with mixed arsenide/phosphide structure. •Interfacial purity/ Contamination analysis of C Binary and Ternary III-V layers with mixed arsenide/phosphide structure. •Interfacial purity/ Contamination analysis of O in Binary and Ternary III-V layers with mixed arsenide/phosphide structure. •Vendor should take care of appropriate sample mounting and surface cleaning of the samples/wafers. 	Yes / No / Explain		
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4	Report format required	The vendor should provide an exclusive report on the measurement performed in .doc/pdf format along with the relevant images and data. The vendor should also provide raw data files that can be opened in excel or origin with Concentration (at/cm3) vs. depth format.	Yes / No / Explain		
5	Analysis location	PAN India	Yes / No / Explain		

6	Eligibility	<p>Parties fulfilling the following requirements are eligible to participate in the tender.</p> <ul style="list-style-type: none"> •Bidder shall be manufacturer or service provider of Secondary Ion Mass Spectroscopy (SIMS) analysis in India. •The bidder must be Class-1 / Class-2 supplier as per (Gol order P-45021/2/2017-PP (BE-2) dated 16th September 2020) Make In India (MII) policy and shall confirm the same in the Bid. •Bidder shall have adequate infrastructure for carrying out SIMS characterization, like Class & Area of Cleanroom(s), lab space for sample preparation and characterization of SIMS. •Bidder should provide calibration certificate, model and make of their equipment which are going to be used for SIMS characterization. •Bidder should have provided service of similar characterization to at least three customers (in-house/domestic /foreign) in the past five years. The list shall be duly supported with POs, Invoices, Certificate of Analysis (CoA), etc. - to be submitted along with the bid. 	Yes / No / Explain		
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Supporting Documents required from Vendor

5 additional documents can be uploaded by the vendor

C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	This is a rate contract, so the payment shall be done on sample basis and characterization carried out as per the request of the SCL.	Yes / No / Explain	
2	<p>Eligibility Criteria:</p> <p>(a) Bidder shall be manufacturer or service provider of Secondary Ion Mass Spectroscopy (SIMS) analysis in India.</p> <p>(b) The bidder must be Class-1/Class2 supplier as per (GoI order P-45021/2/2017-PP(BE-2) dated 16th September 2020) Make In India (MII) policy and shall confirm the same in the bid.</p> <p>(c) Bidder shall have adequate infrastructure for carrying out SIMS characterization, like Class & Area of Cleanroom(s), lab space for sample preparation and characterization of SIMS.</p> <p>(d) Bidder should provide calibration certificate, model and make of their equipment which are going to be used for SIMS characterization.</p> <p>(e) Bidder should have provided service of similar characterization to at least three customers (in-house/domestic/foreign) in the past five years. The list shall be duly supported with POs, Invoices, Certificate of Analysis (CoA), etc.- to be submitted along with the bid.</p>	Yes / No / Explain	
3	<p>Delivery Term:</p> <p>Price shall be quoted on F.O.R SCL, S.A.S Nagar basis exclusive of GST as may be applicable.</p>	Yes / No / Explain	
4	<p>Taxes :</p> <p>i) Charges for SIMS Analysis is subject to deduction of Income tax as per Indian Income Tax regulation. Accordingly payment shall be remitted net of taxes after deduction of income tax at the rate as applicable at the time of SIMS Analysis.</p> <p>ii) GST with the rate at which the same is applicable for SIMS Analysis or any other Govt levy should be clearly indicated in the quote.</p>	Yes / No / Explain	

5	<p>Delivery Period: Vendor shall indicate their minimum delivery period. Vendor to provide compliance to Rate Contract of SIMS Analysis for two years starting from January 2022 to December 2024.</p>	Yes / No / Explain	
6	<p>Security Deposit: On acceptance of the tender, the Contractor shall submit security deposit for three percent (03 percent) value of the Purchase Order (PO) within 15 days from the date of PO towards successful execution of the PO. Security Deposit shall be submitted through Demand Draft / Bankers Cheque/ fixed deposit receipt or Bank Guarantee from any of the Scheduled Banks executed on non-judicial stamp paper of appropriate value, and shall be valid for a period of sixty (60) days beyond the date for completion of the Purchase Order.</p> <p>(This will be returned by SCL immediately on execution of the PO satisfactorily as per order terms. If not, the amount will be forfeited).</p> <p>In case Security Deposit is submitted in the form of Bank Guarantee (BG), after the issue of BG, the issuing bank shall communicate the genuineness of BG through e-mail from banks domain to njain at scl.gov.in and copy to kraj at scl.gov.in followed by a hard copy to Shri Naveen Jain, Sr. Accounts Officer, Semi-Conductor Laboratory, Sector - 72, Mohali - 160071 and copy to Shri Rajesh Kumar Kunjar, Sr. Purchase and Stores Officer, Semi-Conductor Laboratory, Sector -72, Mohali-160071.</p>	Yes / No / Explain	
7	<p>Liquidated Damages (LD): If the Contractor fails to deliver the stores/service within the time specified in the contract or any extension thereof, the purchaser shall recover from the Contractor as liquidated damages a sum of one-half of one percent (0.5 percent) of the Contract price of the undelivered stores for each calendar week of delay. The total liquidated damages shall not exceed ten percent (10 percent) of the Contract price.</p>	Yes / No / Explain	

8	Terms of payment in case of indigenous supplier(S): 100 percent payment within 30 days after receipt and acceptance of material at SCL.	Yes / No / Explain	
9	Validity of Offer: The offer should be valid for a minimum period of 90 days after opening of bid.	Yes / No / Explain	
10	Mode of Dispatch: Stores shall be dispatched by Road transport by the vendor.	Yes / No / Explain	
11	Insurance of Stores: Insurance shall be the responsibility of the vendor.	Yes / No / Explain	
12	Packing and Forwarding: The Contractor shall pack and crate all stores for air/sea/road shipment as applicable in a manner suitable for export to a tropical humid climate, in accordance with internationally accepted export practices and in such a manner so as to protect it from damage and deterioration in transit by road, rail, air or sea. The Contractors shall be responsible for all damages due to improper packing.	Yes / No / Explain	
13	REJECTION: In the event that any of the stores supplied by the Contractor is found defective in material or workmanship or otherwise not in conformity with the requirements of the Contract specifications, the purchaser shall either reject the stores or request the Contractor, in writing, to rectify the same. The Contractor, on receipt of such notification, shall either rectify or replace the defective stores free of cost to the purchaser.	Yes / No / Explain	
14	Fall Clause: The prices charged for the stores supplied under the Contract should in no event exceed the lowest price at which the Contractor sells the stores of identical description to any other vendor during the period of Contract. If at any time, the prices are reduced, the same shall be notified to the Purchaser and shall stand reduced correspondingly.	Yes / No / Explain	

15	<p>ARBITRATION: In the event of any dispute/s, difference/s or claim/s arising out of or relating to the interpretation and application of the Contract, such dispute/s or difference/s or claim/s shall be settled amicably by mutual consultations of the good Offices of the respective Parties and recognizing their mutual interests attempt to reach a solution satisfactory to both the parties. If such a resolution is not possible, within 30 days from the date of receipt of written notice of the existence of such dispute/s, then the unresolved dispute/s or difference/s or claim/s shall be referred to the Sole Arbitrator appointed by the Parties by mutual consent in accordance with the rules and procedures of Arbitration and Conciliation Act 1996 as amended from time to time. The arbitration shall be conducted in New Delhi in the Arbitration and Conciliation Centre New Delhi (Domestic and International) as per its rules and regulations. The expenses for the Arbitration shall be shared equally or as may be determined by the Arbitrator. The considered and written decision of the Arbitrator shall be final and binding between the Parties. The applicable language for Arbitration shall be English only. Work under the Contract shall be continued by the CONTRACTOR during the pendency of arbitration proceedings, without prejudice to a final adjustment in accordance with the decision of the Arbitrator unless otherwise directed in writing by the Purchaser or unless the matter is such that the works cannot be possibly continued until the decision (whether final or interim) of the Arbitrator is obtained</p>	Yes / No / Explain	
16	<p>Applicable Law: The Contract shall be interpreted, construed and governed by the laws of India.</p>	Yes / No / Explain	
17	<p>Indicate the name and address of the vendor for placing Purchase Order along with their e-mail ID, contact person and designation, Telephone No. and fax no.</p>	Yes / No / Explain	

18	The participating vendors/suppliers/service providers shall indicate specifically whether they fall in the category of Class-I Local supplier or Class-II Local supplier or Non-Local supplier for evaluation as per Ministry of Commerce and Industry Office Order No :-P-45021/2/2017-PP (B-II) dt 16th September 2020. The vendor/supplier/service provider shall submit documentary proof in this regard. The provisions of above referred office order shall apply for this procurement.	Yes / No / Explain	
19	Termination/short closing of Contract: Under normal circumstances, termination/short closing of the Contract is not foreseen. However, SCL reserves the right to terminate the Contract wholly or partly by giving 30 days prior notice in writing without any financial obligation on either side.	Yes / No / Explain	
20	Any Other Term:	Yes / No / Explain	

C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
1	Secondary Ion Mass Spectroscopy (SIMS) Analysis/Measurement for Si/SiGe/Si Samples(NA)	1.00 Each		-		
2	Secondary Ion Mass Spectroscopy (SIMS) Analysis/Measurement for AlGaN/GaN/ AlGaN samples(NA)	1.00 Each		-		

3	Secondary Ion Mass Spectroscopy (SIMS) Analysis/Measurement for Binary and Ternary III-V layers with Mixed Arsenide/Phosphide Structures(NA)	1.00 Each		-		
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