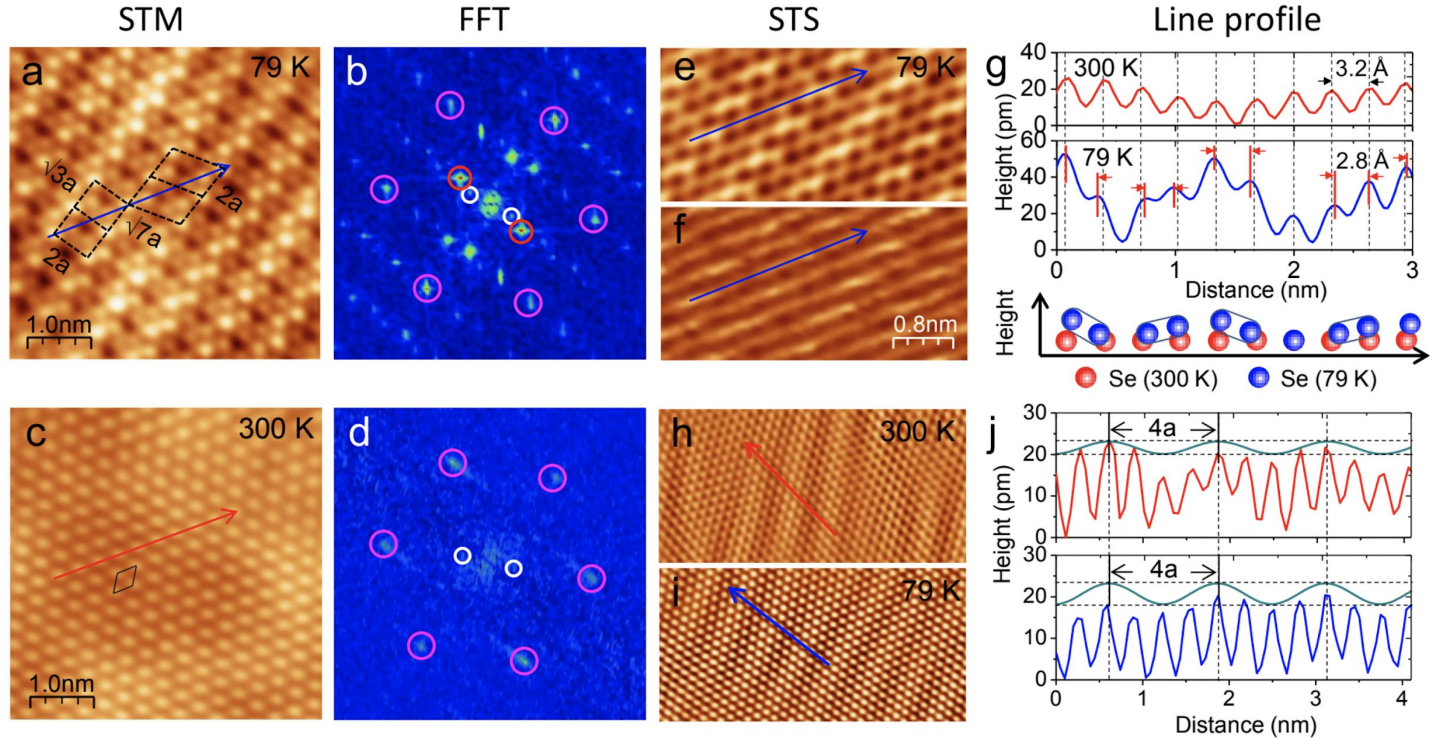


STM study of 1ML VSe₂

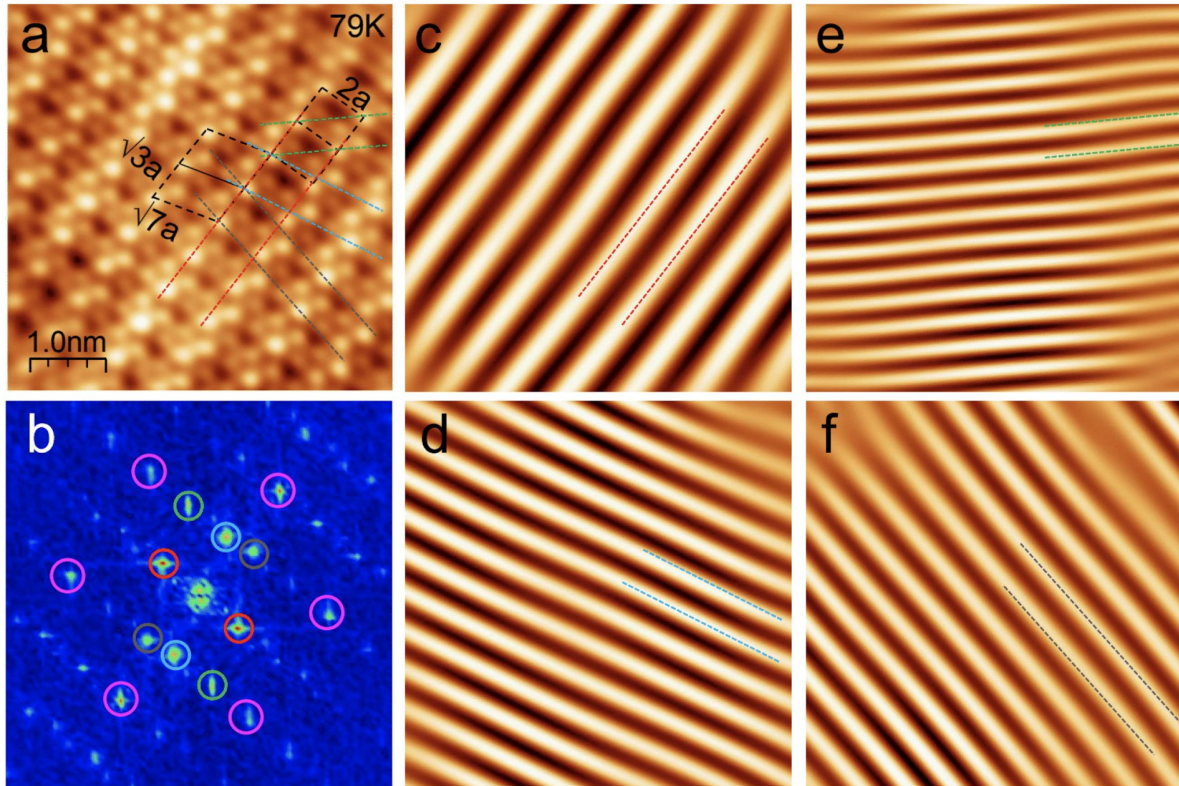


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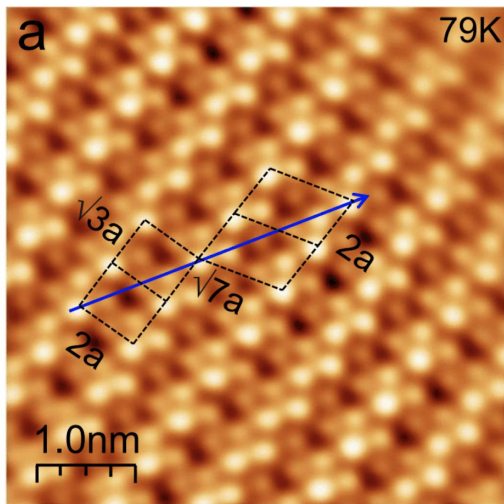
- Structural distortion (dimerization) @ 80K
- CDW both @ 80K & 300K

Distorted structure in 1ML VSe₂

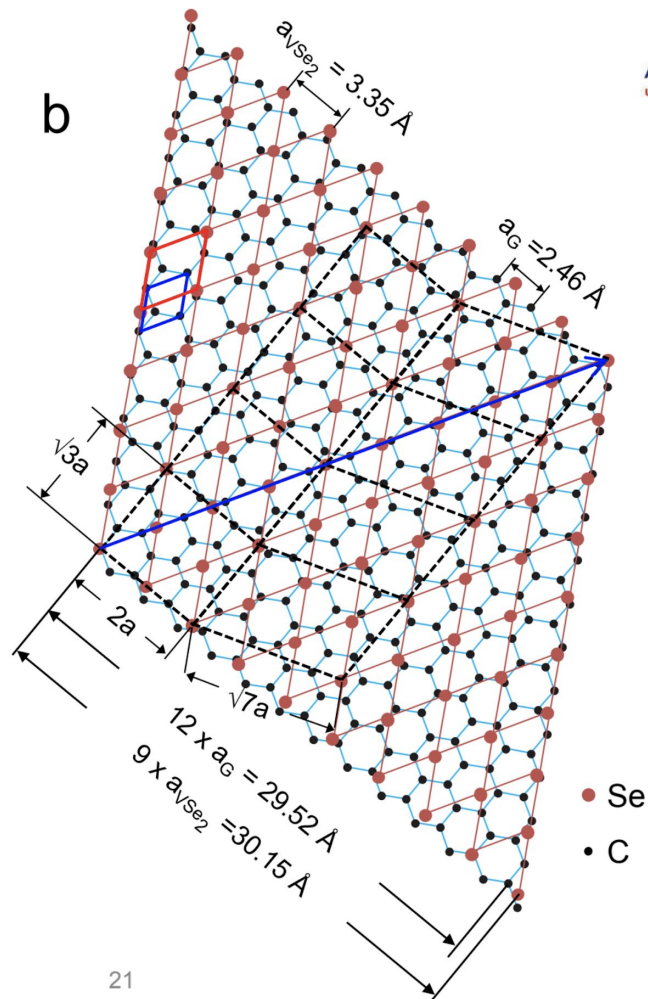


- Distorted structure consisted with complex structure orderings.

Lattice mismatch



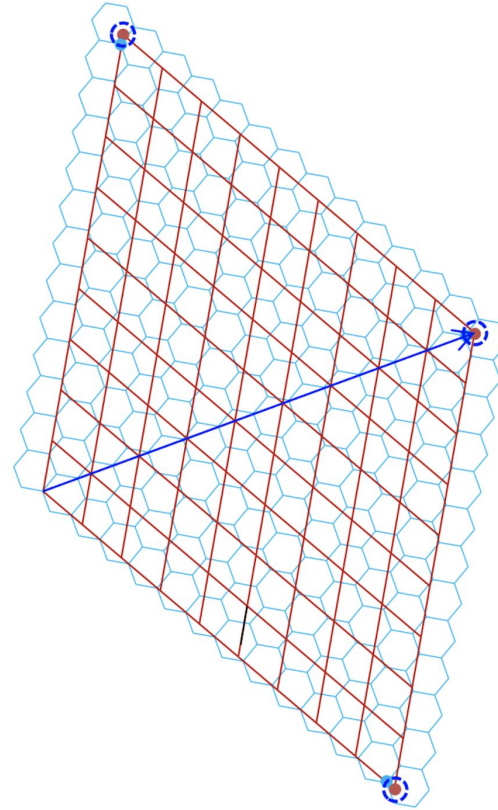
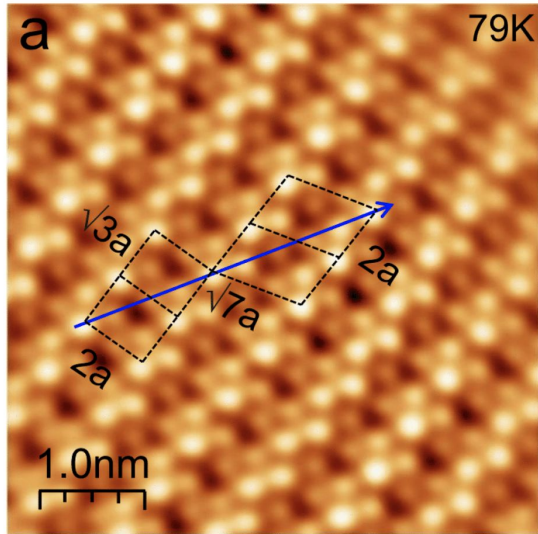
➔ Lattice mismatch between
VSe₂ and Graphene
accidentally match the distortions.



Lattice mismatch

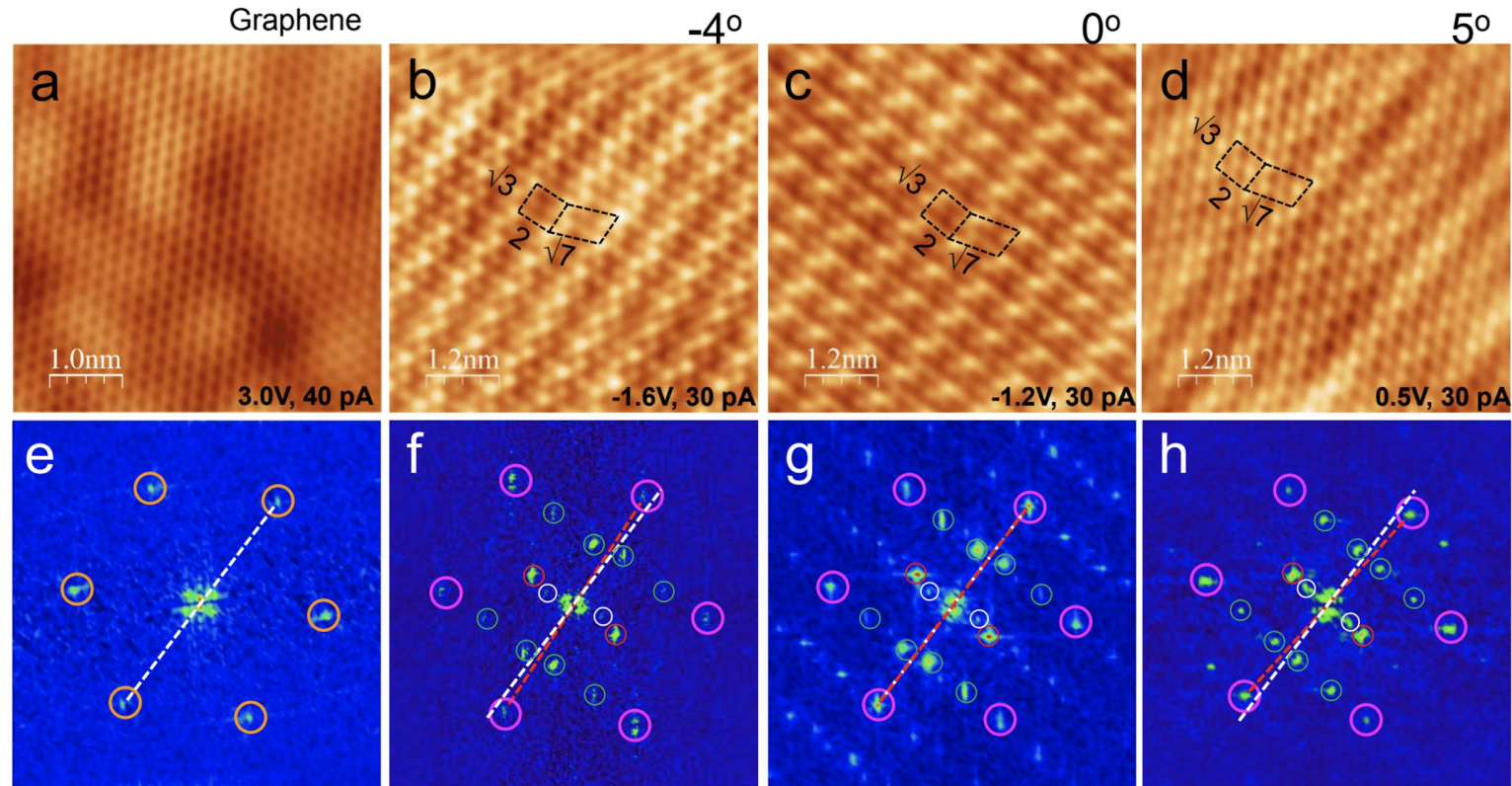


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→ Lattice mismatch between
VSe₂ and Graphene
accidentally match the distortions.

Mis-orientation vs. distortion in 1ML VSe₂

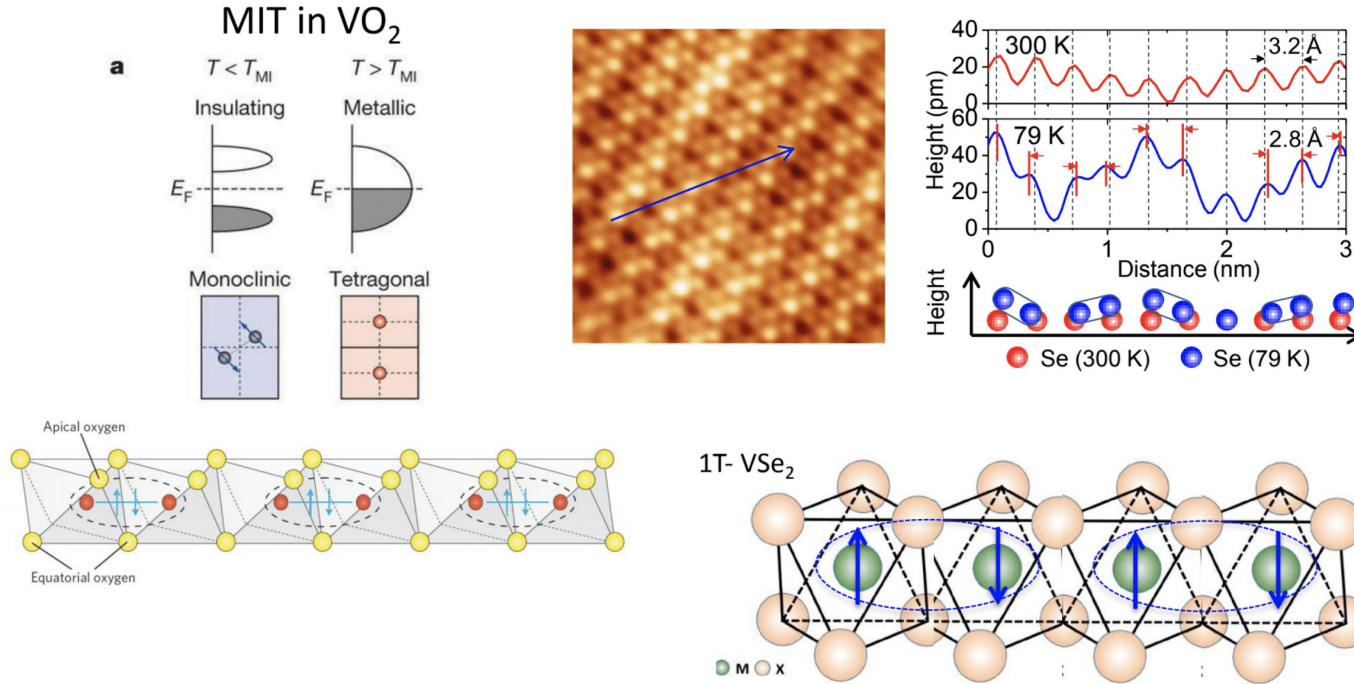


- Lattice mismatch between graphene & VSe₂ affect the distorted structures in spite of small mis-orientations.

1ML VSe₂: new MIT (135 K)



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- Strong distortion induces new MIT (anti-ferro ordering).
- Heterointerface(VSe₂/graphene)-driven MIT