

## Electronic Supplementary Information

# Graphyne-Anchored Single Fe Atoms as Efficient CO Oxidation Catalyst as Predicted by DFT Calculations

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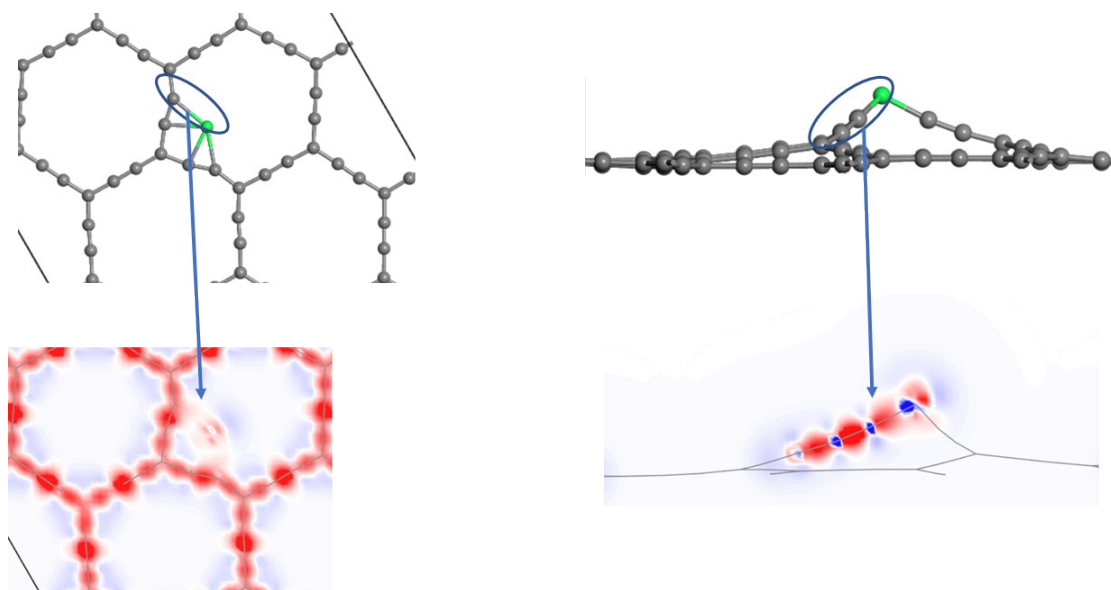
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1. Optimized structures and binding energies of all studied single Fe atom adsorbed on pristine 2D  $\alpha$ Gy.
2. Calculated deformation electron densities of Fe atom adsorbed on pristine (left) and SAV- $\alpha$ Gy.

Site	B12	T1	T2	B11	H
Top View					
Side View					
$E_b$ (eV)		-3.36		-2.91	-0.45

**Figure S1.** Optimized structures and binding energies of all studied single Fe atom adsorbed on pristine 2D  $\alpha$ Gy.



**Figure S2** Calculated deformation electron densities of Fe atom adsorbed on pristine (left) and SAV- $\alpha$ Gy.