Supplementary Information

Tuning the Reactivity of Ru Nanoparticles by Defect Engineering of the Reduced Graphene Oxide Support

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Formation energy of defective graphene

The formation energy of defect is defined as the following:

$$E_{formation} = E_{defect} - \frac{m}{n}E_{perfect}$$

where E_{defect} and $E_{perfect}$ are the total energies of defective and perfect graphene, respectively. n is the number of atoms in the perfect graphene, while m is the number of atoms in the defective graphene.
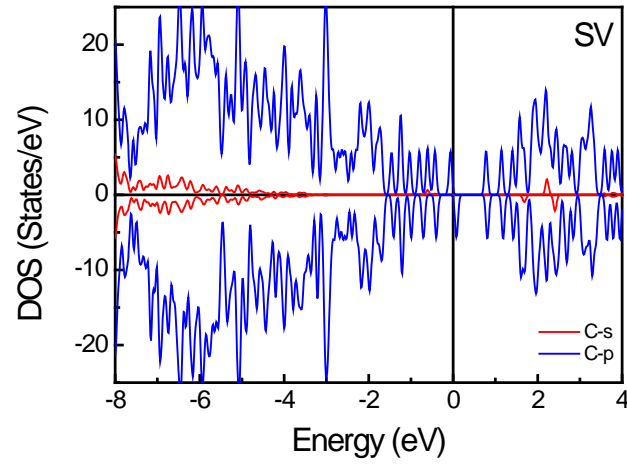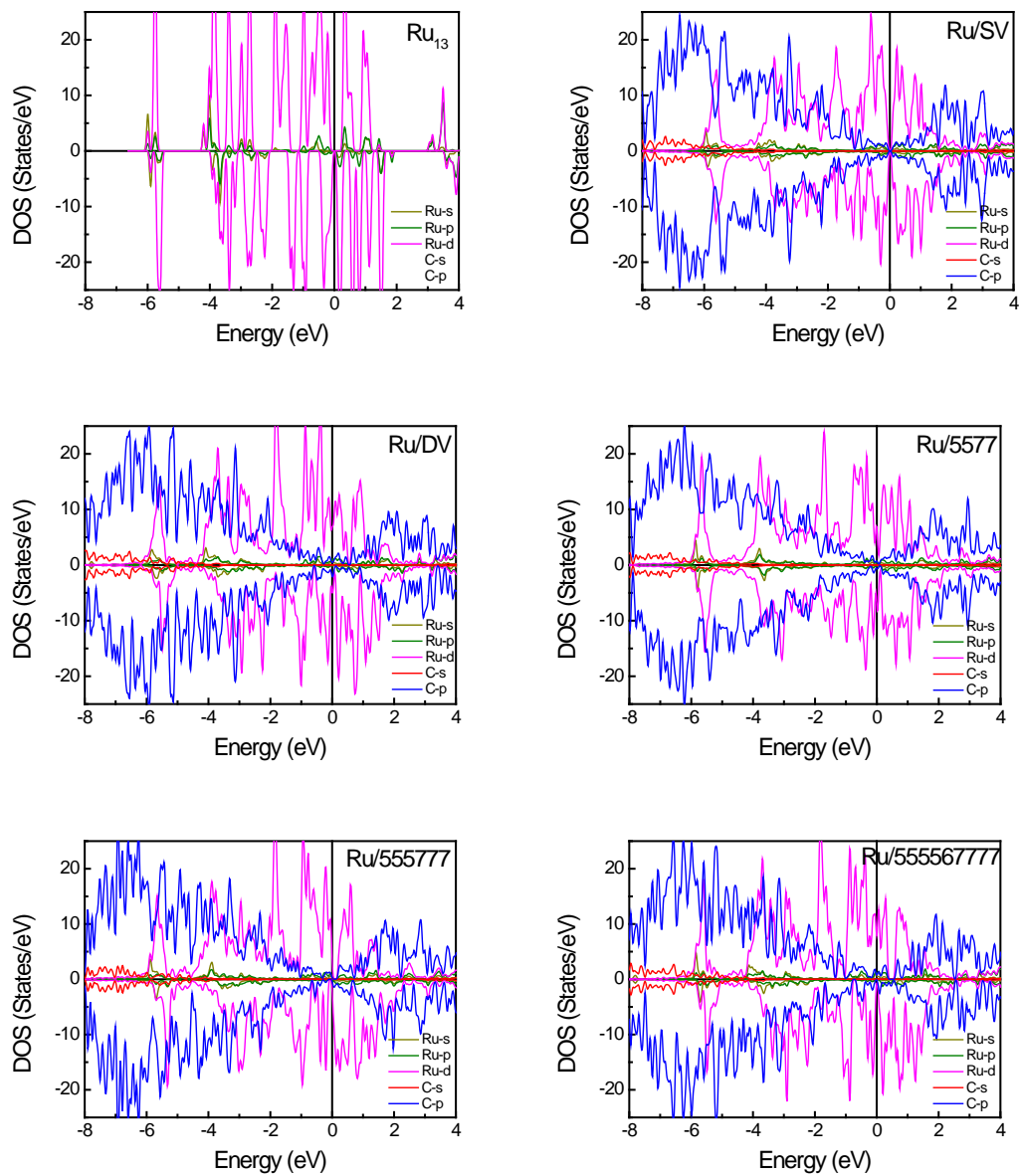

Figure S1. The DOS of SV.

Figure S2. The DOS of Ru$_{13}$, Ru/SV, Ru/DV, Ru/5577, Ru/555777 and Ru/555567777 composites.