

Supplementary information

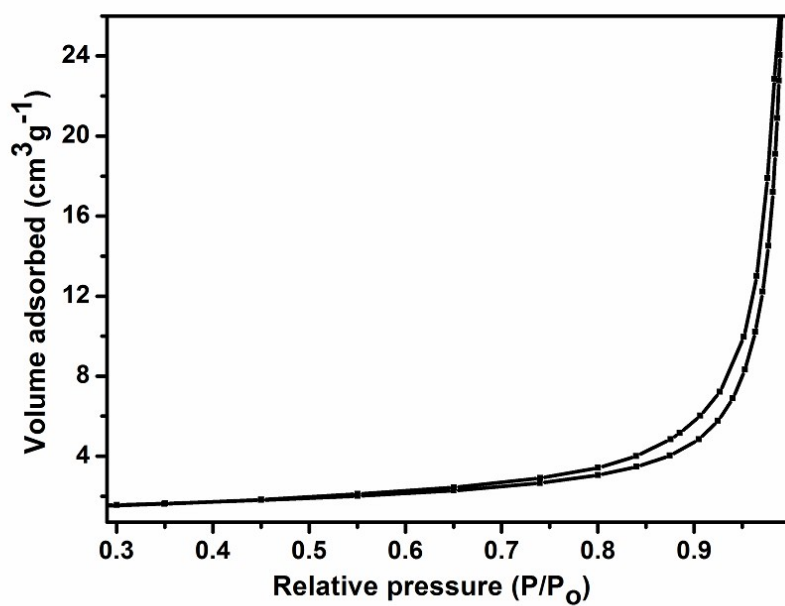
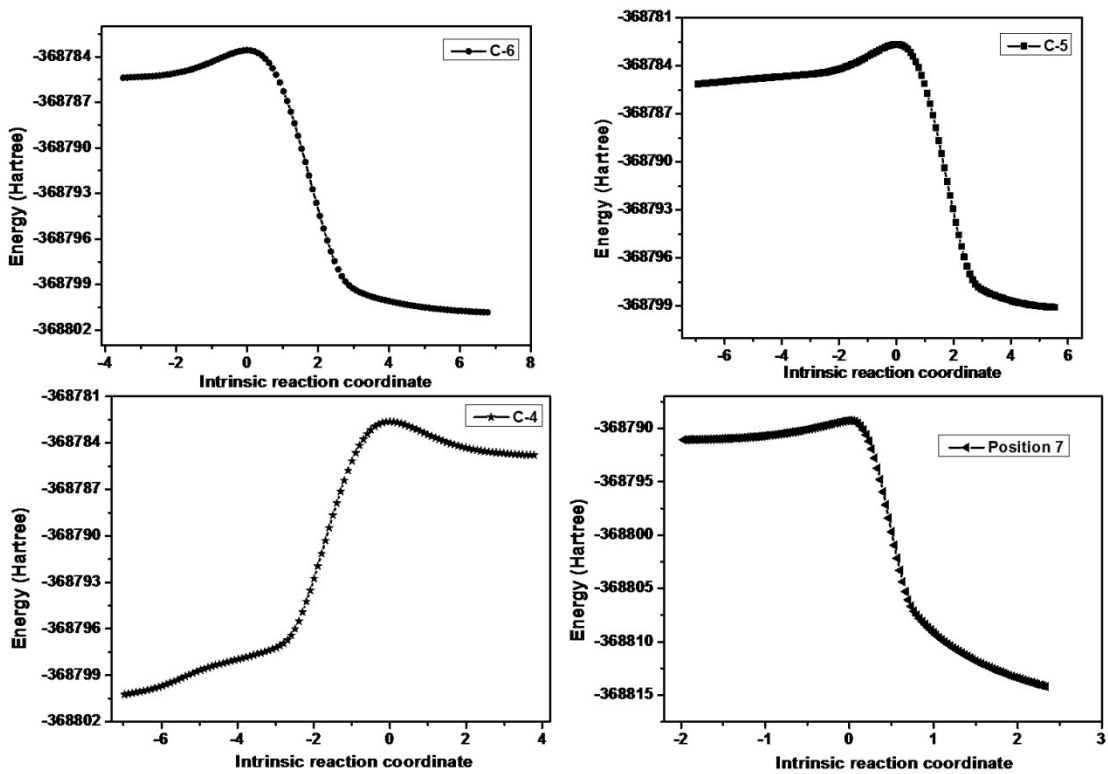
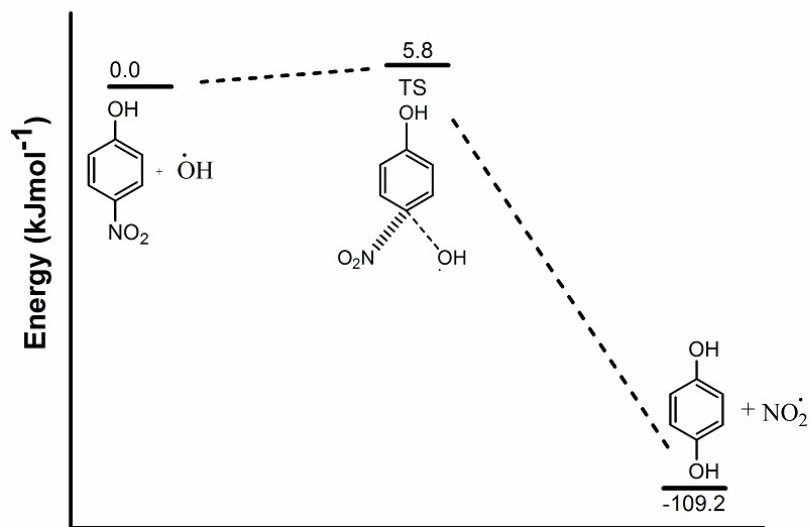


Figure S1. Nitrogen adsorption-desorption isotherms of Pd-ZnO-EG sample.

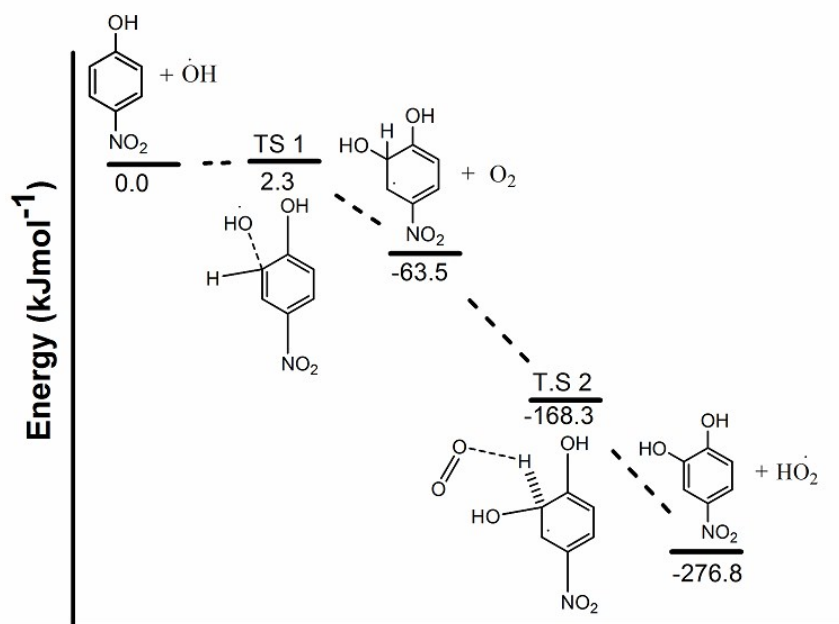


a)

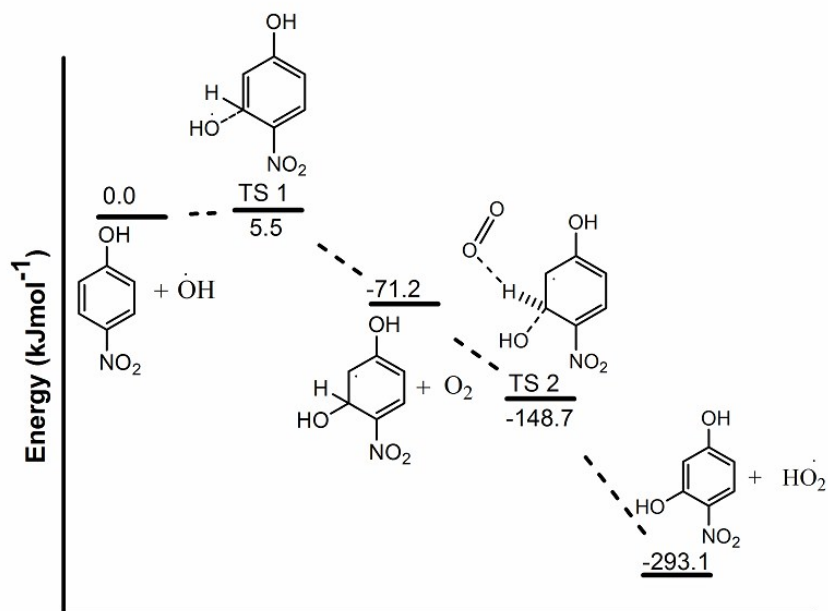


b)

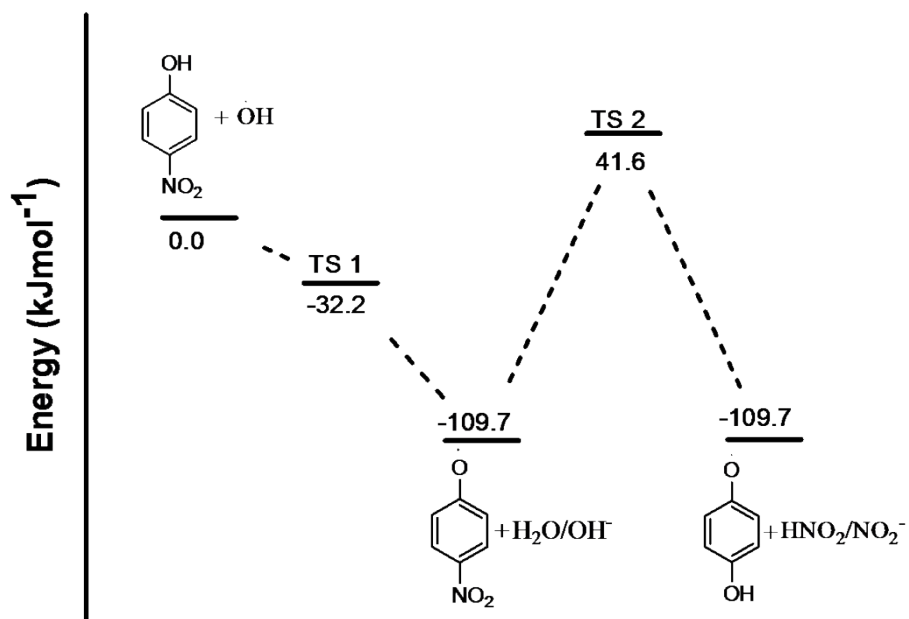
Figure S2. (a) Various reaction coordinates for the hydroxyl attacks on the various positions of the 4-nitrophenol. (b) Energy profile diagram for the nitrophenol degradation pathways leading to the formation hydroquinone from the hydroxyl attack on position 4.



a)



b)



c)

Figure S3. Energy profile for the 4-nitrophenol degradation pathways leading to the formation of (a) catechol, (b) resorcinol, and (c) semiquinone radical.