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## Carbon Nitride Mediated Strong Metal-Support Interaction in Au/TiO<sub>2</sub> Catalyst for Aerobic Oxidative Desulfurization

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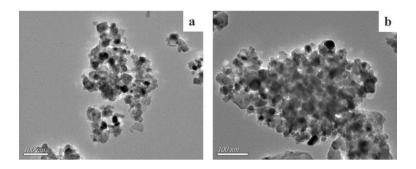


Figure S1. TEM images of catalysts (a) Au-TiO<sub>2</sub>@C<sub>3</sub>N<sub>4</sub> (b) Au-TiO<sub>2</sub>

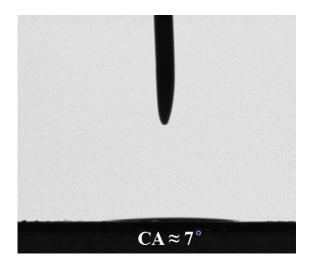


Figure S2. Contact angle for an oil droplet on the surface of Au-TiO<sub>2</sub>

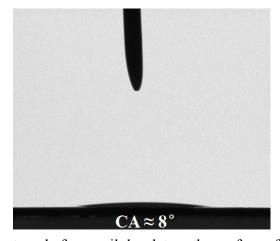


Figure S3. Contact angle for an oil droplet on the surface of Au-TiO $_2$ @C $_3$ N $_4$ 

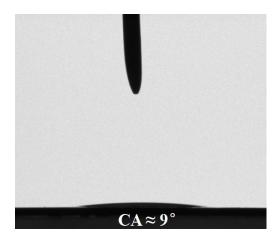


Figure S4. Contact angle for an oil droplet on the surface of  $Au-TiO_2-800$ 

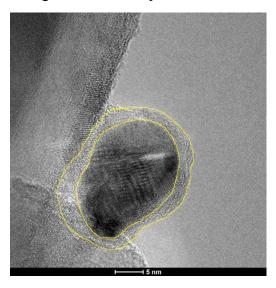


Figure S5. HRTEM image of Au-TiO $_2$ @C $_3$ N $_4$  catalyst

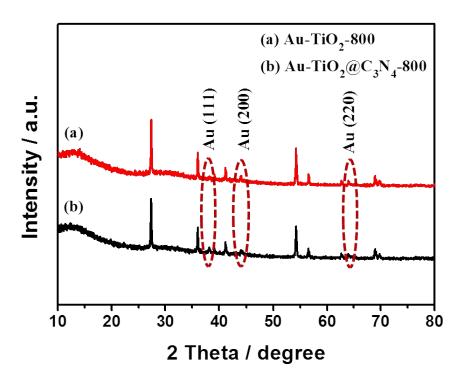


Figure S6. XRD patterns of (a) Au-TiO<sub>2</sub>-800 (b) Au-TiO<sub>2</sub>@ $C_3N_4$ -800

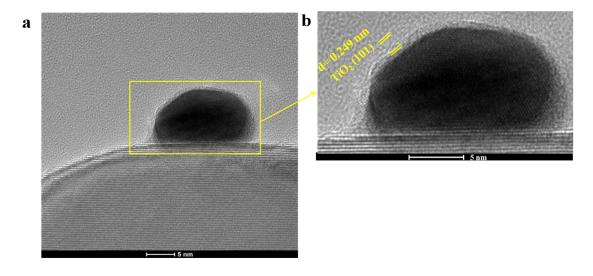


Figure S7. HRTEM images of Au-TiO $_2$ @C $_3$ N $_4$ -800.

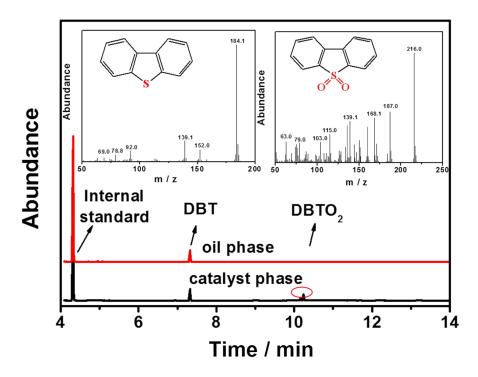


Figure S8. GC-MS analysis of oil phase and catalyst phase during the reaction