

SUPPLEMENTARY INFORMATION

**Graphene oxide as catalyst for the diastereoselective transfer hydrogenation in the synthesis of prostaglandin derivatives**

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Preparation of GO.

GO has been obtained starting from graphite by conventional Hummers oxidation to graphite oxide, followed by exfoliation by ultrasounds.<sup>33</sup> In brief, graphite flakes (3 g) were suspended in a mixture of concentrated H<sub>2</sub>SO<sub>4</sub>/H<sub>3</sub>PO<sub>4</sub> (360:40 ml). To this mixture, KMnO<sub>4</sub> (18 g) was added by producing an exothermic reaction raising the temperature to 35–40 °C. This reaction mixture was then heated to 50 °C under stirring for 12 h. The reaction was cooled to room temperature and poured into 400 g of ice containing 30 % H<sub>2</sub>O<sub>2</sub> (3 ml). After allowing the suspension to cool at the air, the mixture was filtered, washed with 1:10 HCl (37%) solution and then further washed with additional water. The remaining solid was sonicated in 400 ml of water for 30 min and centrifuged at 4,000 r.p.m. for 4 h. The supernatant was again centrifuged at 15,000 r.p.m. for 1 h. The solid obtained, after centrifugation at 15,000 r.p.m., was dried at 60 °C.

NH<sub>3</sub>-TPD measurement was performed using an AutoChem II 2920 station from Micromeritics. Before NH<sub>3</sub> adsorption, the fresh sample was heated to 120°C (20°C min<sup>-1</sup>) in 30 mL high pure He flow. Subsequently, the sample was cooled down to RT in He flow. NH<sub>3</sub> adsorption was performed under ambient conditions for 120 min in a flow of 10% ammonia in He (30 mL.min<sup>-1</sup>). Then, the samples were purged with He to allow the physisorption of ammonia to be evacuated. Desorption of NH<sub>3</sub> was carried out with the linear heating rate (10°C min<sup>-1</sup>) in a flow of He till 500°C.

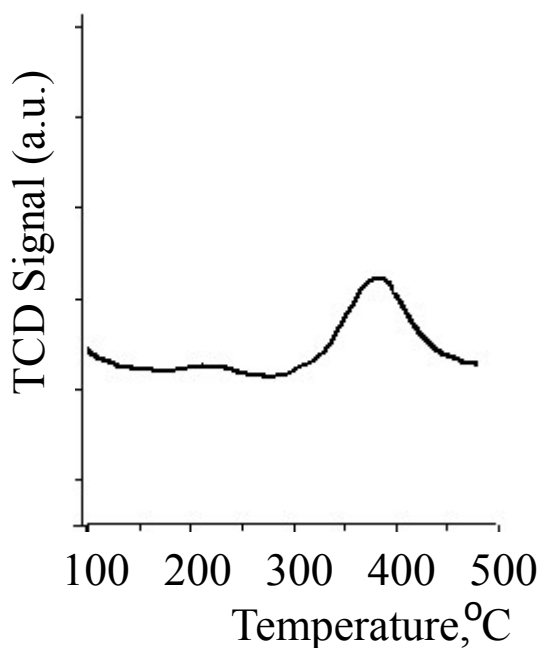


Figure SI 1. NH<sub>3</sub>-TPD of GO

The NH<sub>3</sub>-TPD measurements of the GO evidenced the presence of two desorption peaks: a low intensity peak at 230°C and a high intensity peak at 380°C indicating the presence of acidic sites preponderantly of high strength.

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