

Supplementary Information

Optical Band Gap Alteration of Graphene Oxide via Ozone Treatment

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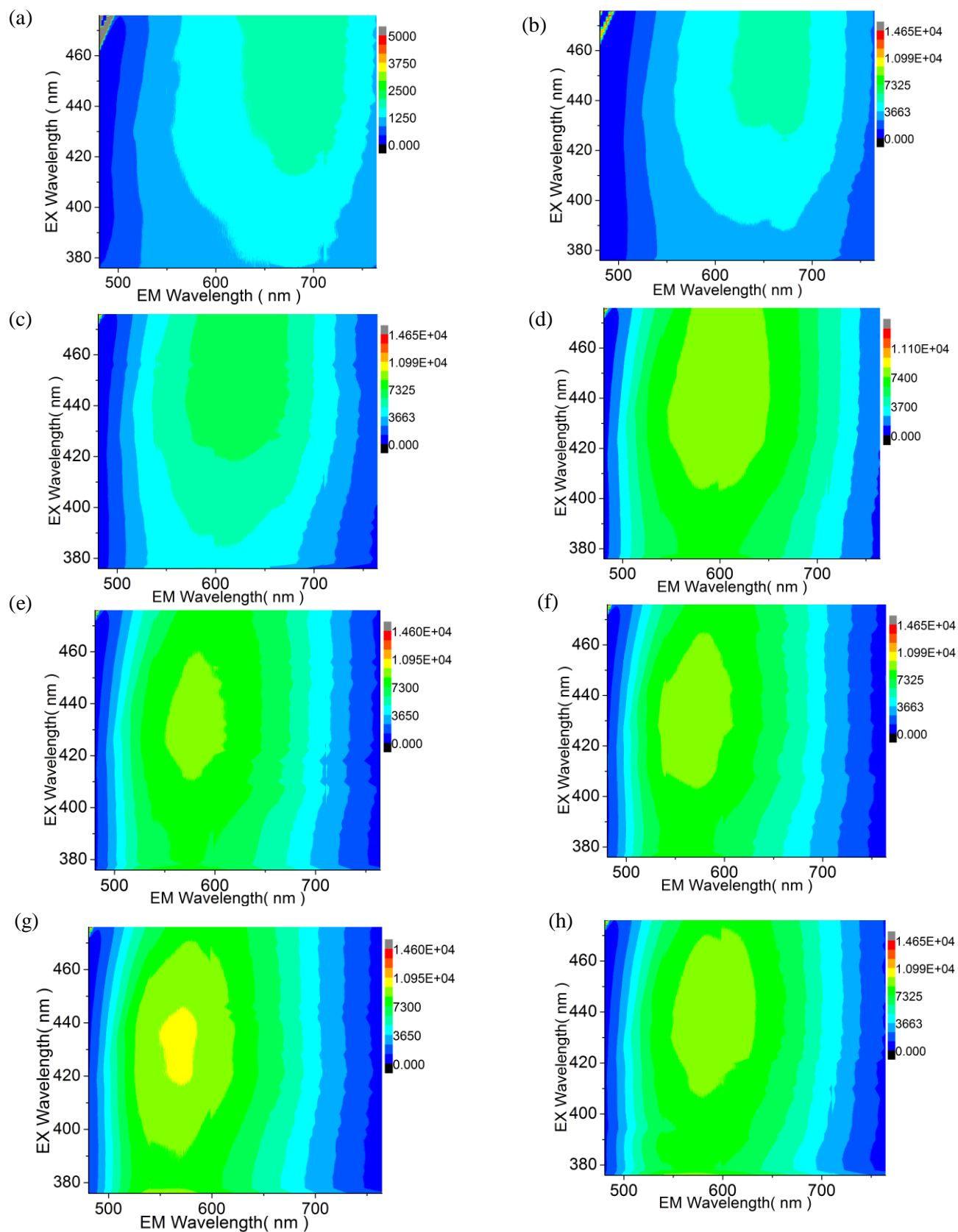


Figure S1. Photoluminescence excitation (PLE) maps of (a) 0 min (b) 5 min (c) 10 min (d) 15 min (e) 20 min (f) 25 min (g) 30 min (h) 35 min ozone treated GO samples. X and Y axis represent the emission and excitation wavelength,

Figure S1(a-h) represents the PLE contour graphs of 0, 5, 10, 15, 20, 25, 30 and 35 minutes ozone treated samples, respectively. With ozone treatment, both excitation and emission maxima experience a gradual trend of blue shifts except for 35 min-treated sample, optical changes in which could be attributed to overoxidation-induced deterioration of GO sheets¹.

SEM of the starting GO material shows the abundance of single layer graphene flakes (Figure S2).

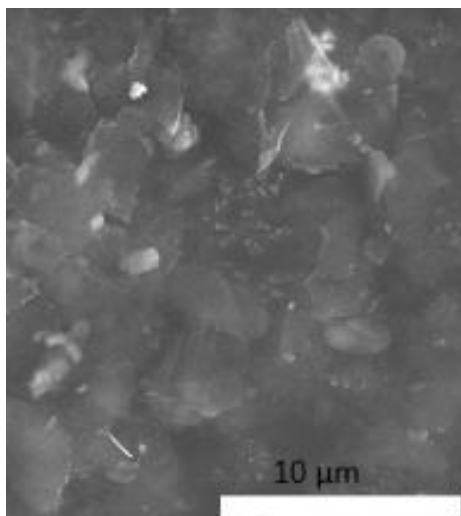


Figure S2. SEM image of single-layer flakes in the starting Graphene Oxide material

Reference:

- 1 Md Tanvir, H. *et al.* Modifying optical properties of reduced/graphene oxide with controlled ozone and thermal treatment in aqueous suspensions. *Nanotechnology* **28**, 065705, doi:10.1088/1361-6528/aa5232 (2017).