**Electronic Supporting information**

**Scheme 1**

Scheme 1 Reaction schematic of BiOI-GO nanocomposite.
**ESI Figure 1**

**Figure 1** XRD pattern of BiOI (black in colour) and BIGO1 (red in colour).
Figure 2 EDS Spectrum of the BI2O1 nanocomposite.
ESI Figure 3

Figure 3 Raman spectrums of as-synthesized samples.
Figure 4 UV-vis spectrum of BiOI (black in color) and BIGO1 nanocomposites (red in color).
**ESI Figure 5**

**Figure 5** PL spectrum of BiOI (black in color) and BIGO1 nanocomposites (red in color).
ESI Figure 6

Figure 6 Photocatalytic stability of BIGO1 sample on the degradation of MO under visible light irradiation.
**ESI Figure 7**

*Figure 7* Photocatalytic activities of BiOI and BiOI–GO nanocomposites samples on the degradation of MO under visible light irradiation.