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Facile template synthesis of dumbbell-like  $Mn_2O_3$  with oxygen vacancies for efficient degradation of organic pollutants by activating peroxymonosulfate

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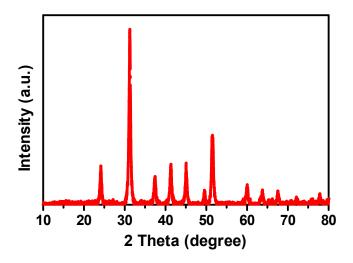


Fig. S1. XRD pattern of the precursors of  $Mn_2O_3$ -G.

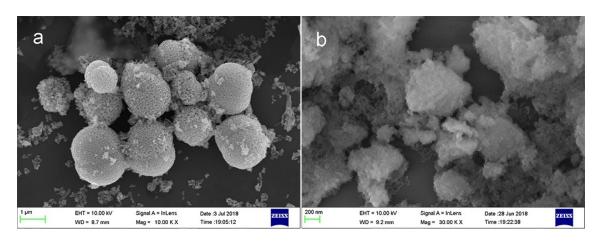


Fig. S2. FESEM images of (a)  $Mn_2O_3$ -C and (b)  $Mn_2O_3$ -N.

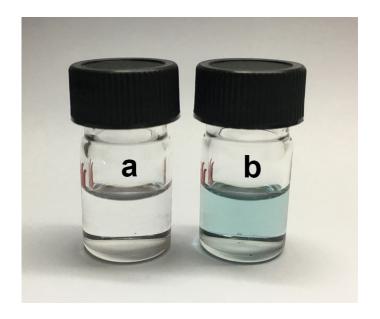


Fig. S3. The optical image of the solution in the (a) NBT and (b)  $Mn_2O_3$ -G/PMS/NBT system.

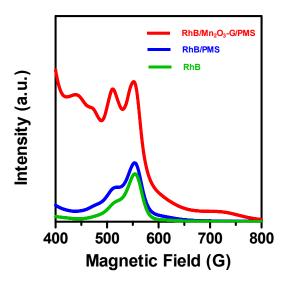


Fig. S4. UV-vis absorption spectra of  $H_2O_2$  concentration in different systems.