

Supporting information

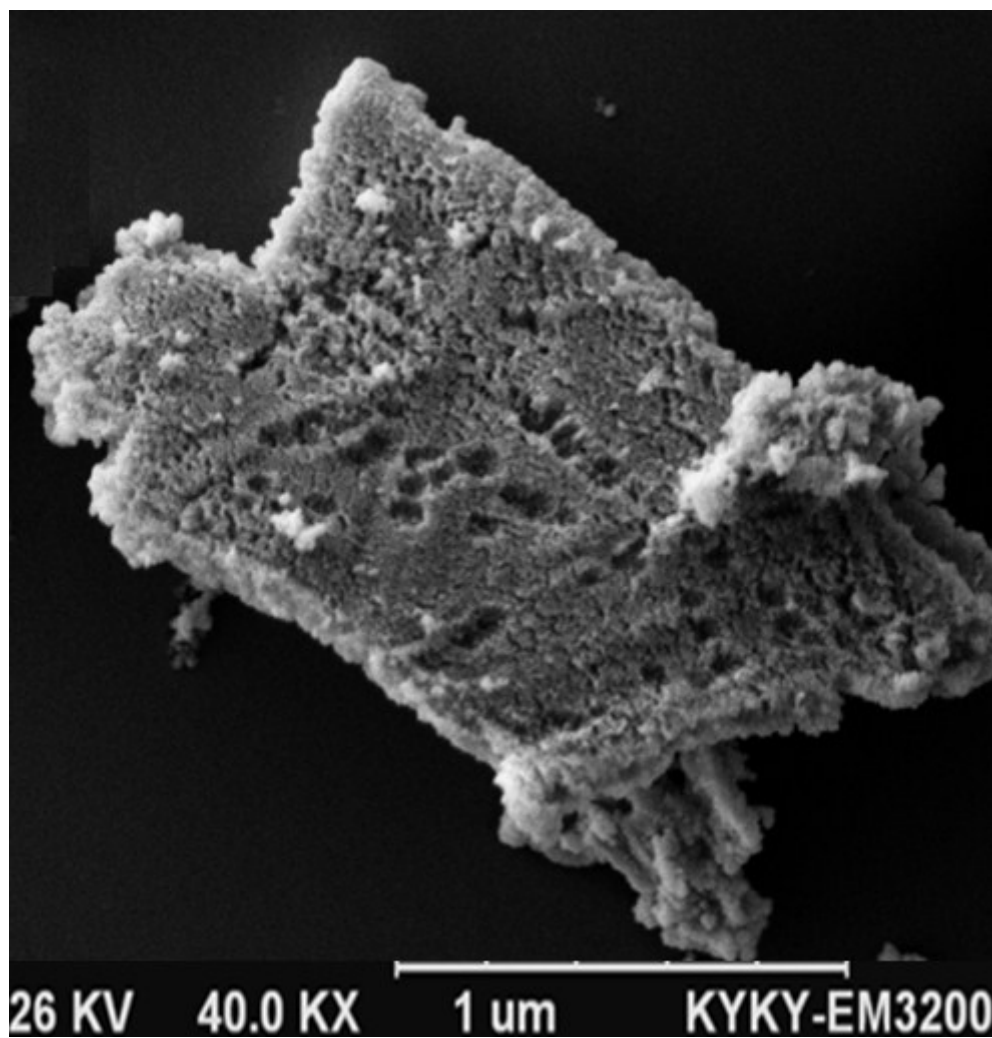


Fig .S1 FE-SEM of gold nanosheet film.

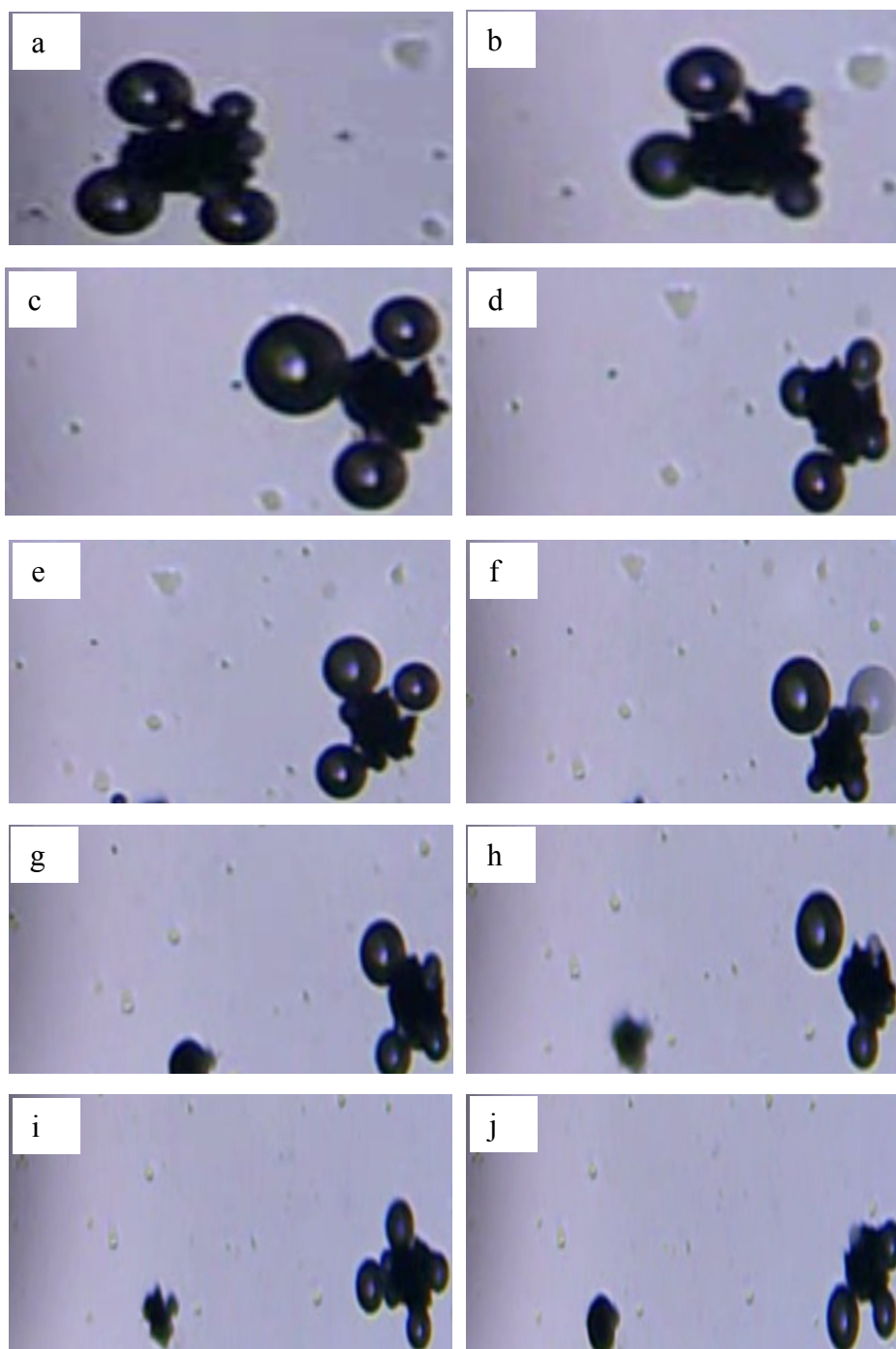
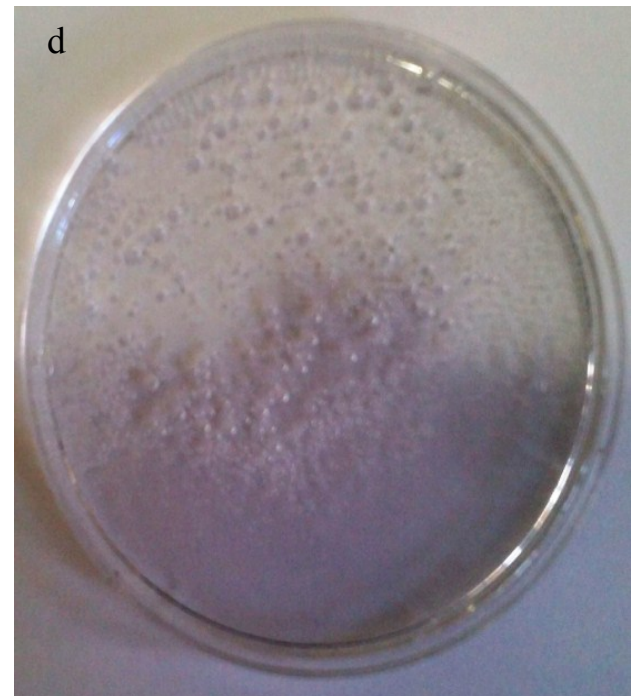
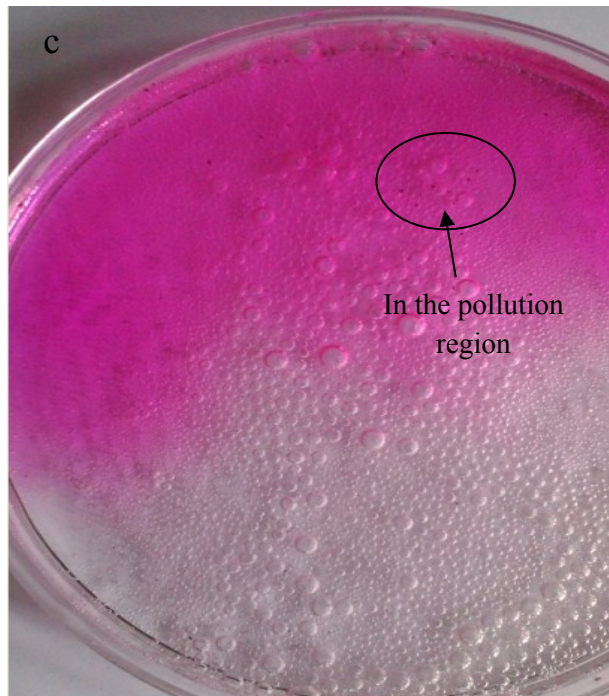
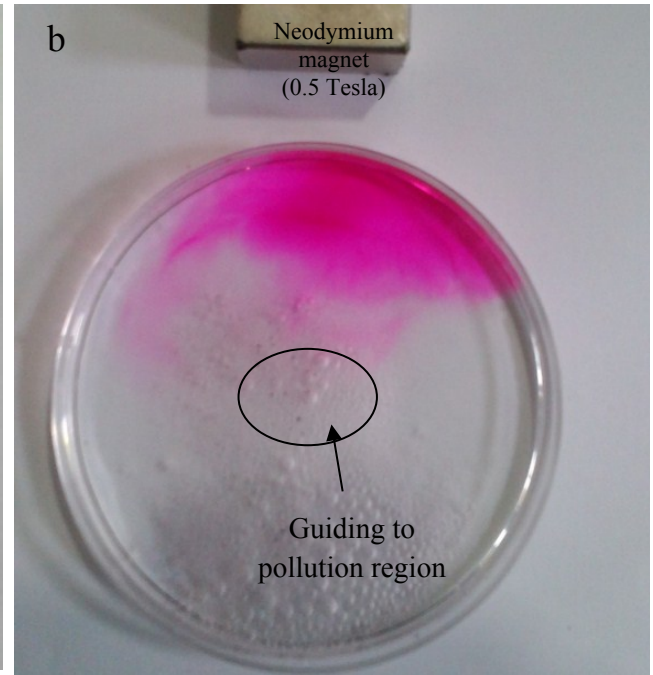
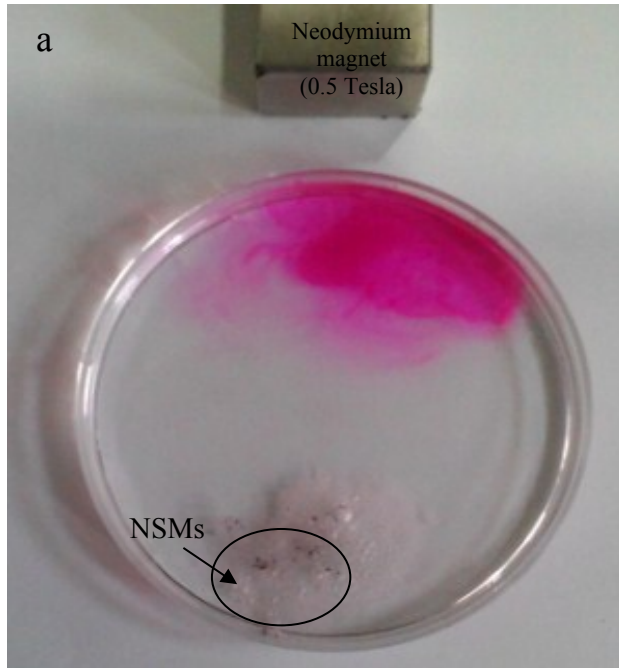


Fig. S2 Time-lapse images of the NIR-triggered motion of oxygen-propelled NSM in 0.1% (v/v) H_2O_2 . The magnification of images is 640 times. These figures are the snapshot from video S2.

A



B

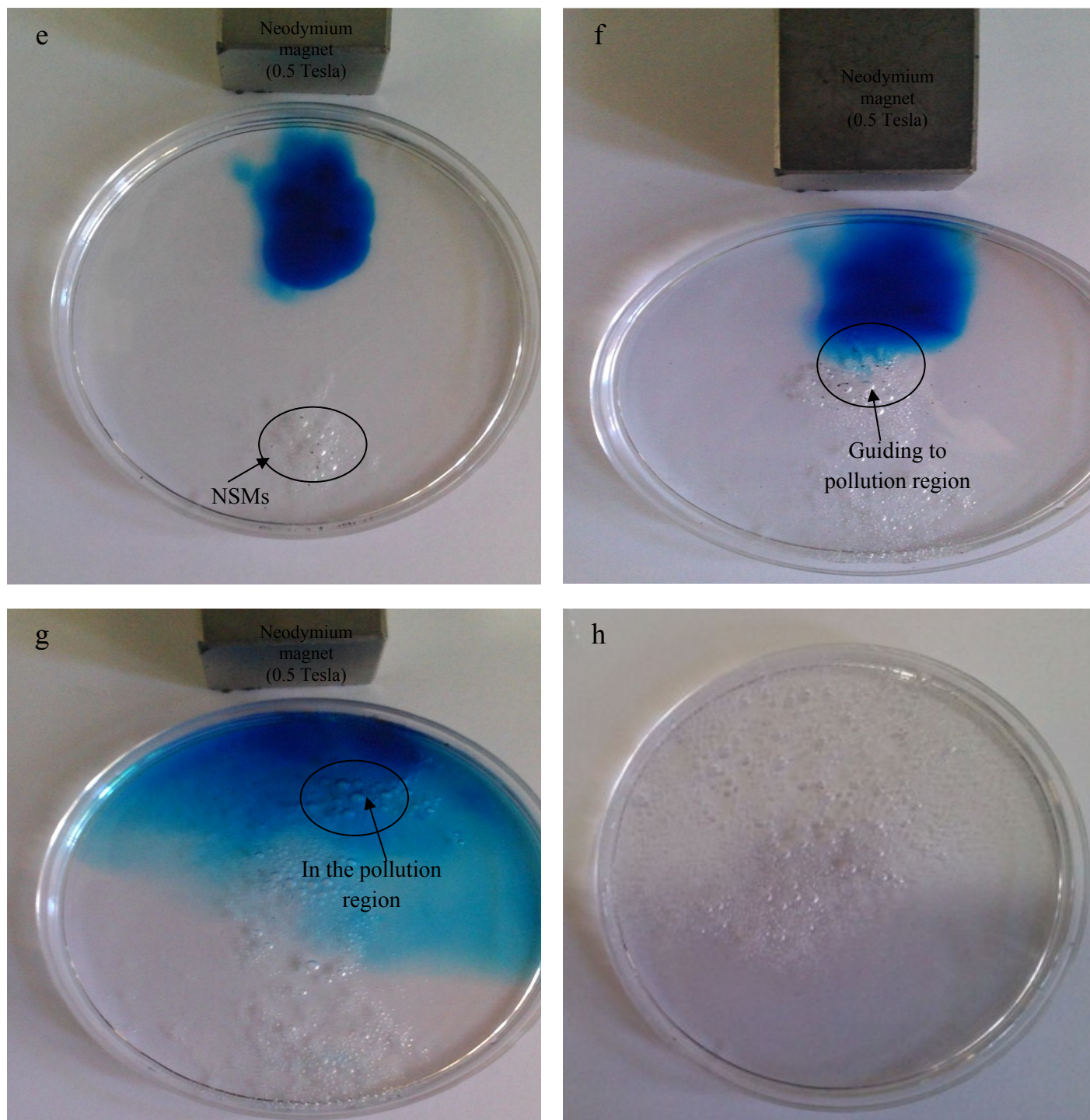


Fig.S3 Photographs of the polluted solution by RB (A) and MB (B) at the beginning process (a,e) the guiding of NSMs to pollution region by magnetic force (b,f), in the pollution region (c,g) and the end of the process after 2h (d,h).

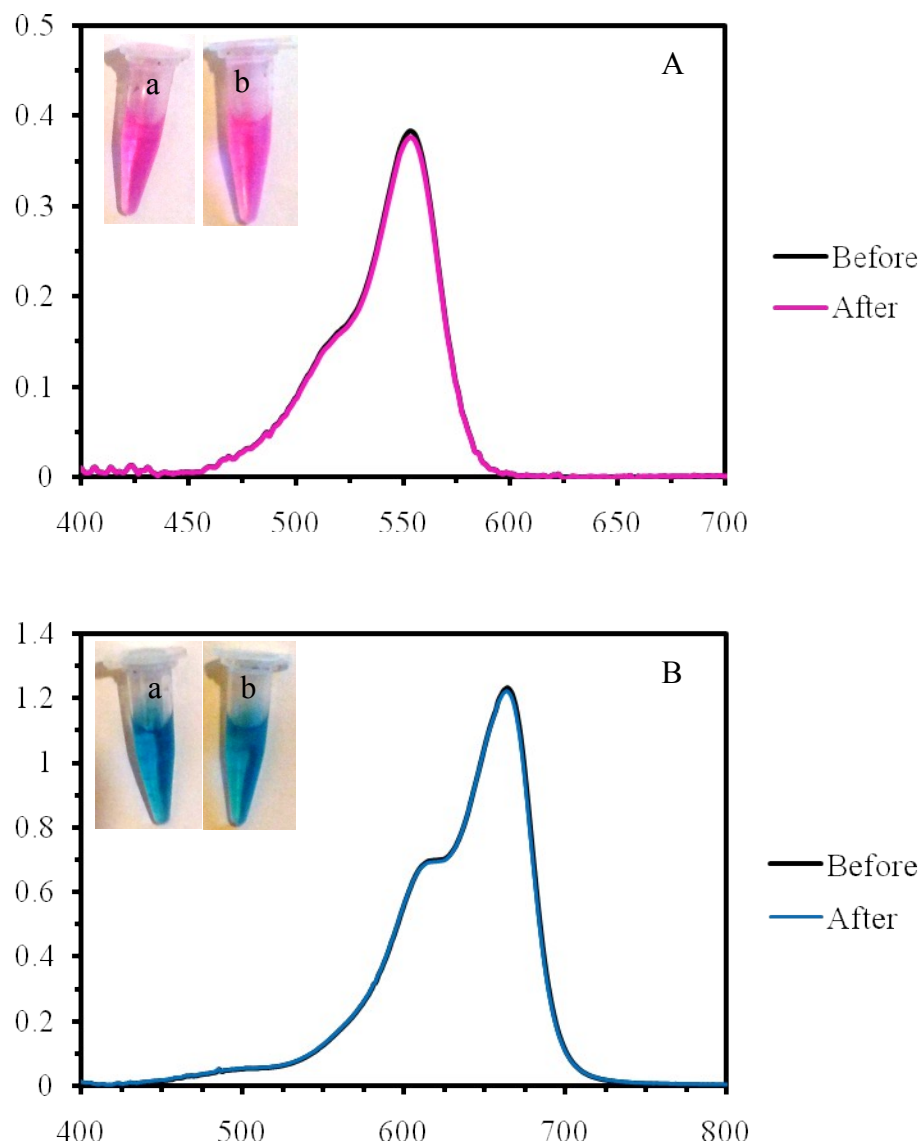


Fig.S4 UV-Vis absorption spectra of 60 ppm of RB (A) and MB (B) in 1% H₂O₂, before and after degradation process in absence NSM after 2h. The inset shows the visual color changes of the RB (A) and MB (B) before (a) and after (b) 2h.

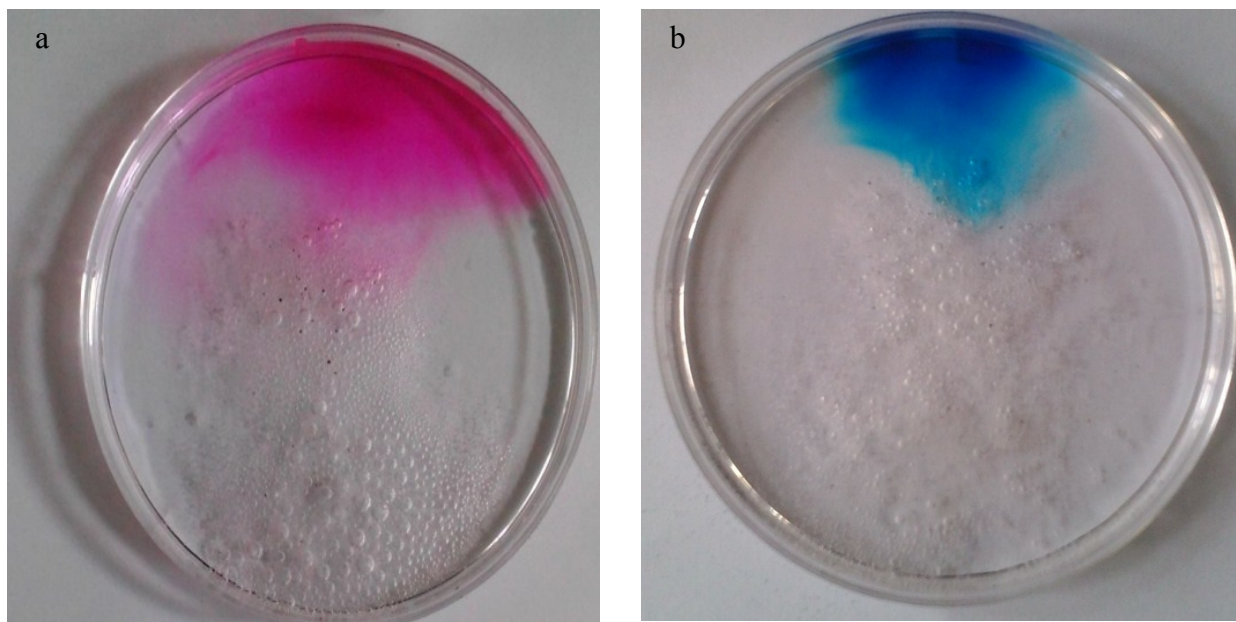


Fig. S5 Photographs of the polluted solution by RB (a) and MB (b) in absence of magnetic force for guiding of NSMs to pollution region after 2 h.