

ESI File

TiO₂ doped polydimethylsiloxane (PDMS) and *Luffa cylindrica* based photocatalytic nanosponge to absorb and desorb oil in diatom solar panels

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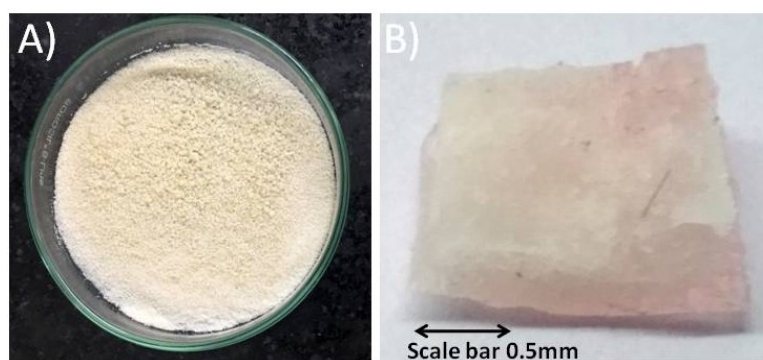


Fig. S1 PDMS sponge made by sugar templating (A) Powdered sugar granules and (B) PDMS sponge after sugar templating and curing.

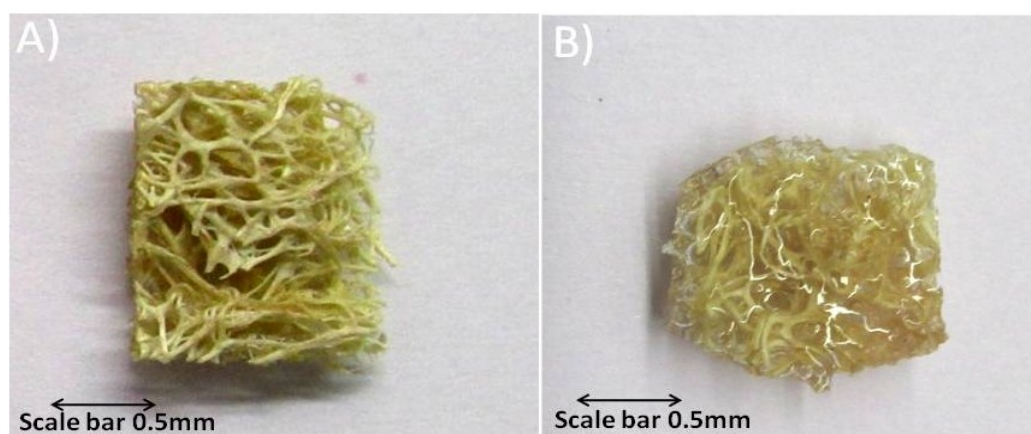


Fig. S2 Fabrication of PDMS-*Luffa* sponge (A) Cleaned *Luffa* fibre, (B) PDMS-*Luffa* sponge.

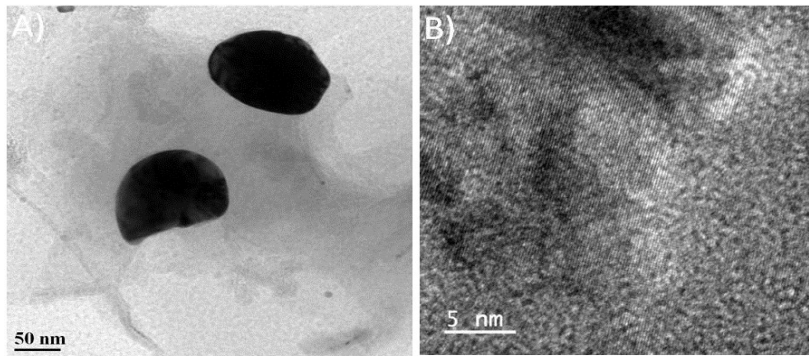


Fig. S3 (A) TEM image TiO_2 nanoparticle, (B) high-resolution TEM image of TiO_2 nanoparticle.

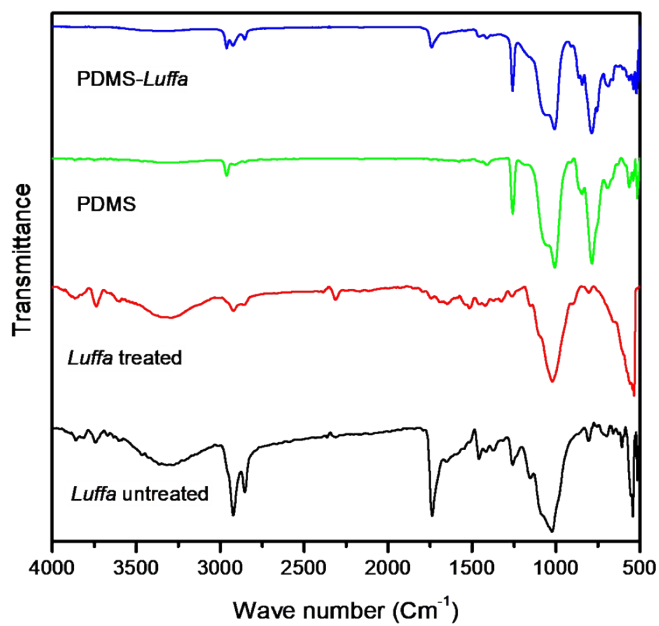


Fig. S4 FTIR spectra of untreated *Luffa* fibre (Black), treated *Luffa* fibre (Red), PDMS (Green) and PDMS-*Luffa* sponge (Blue).

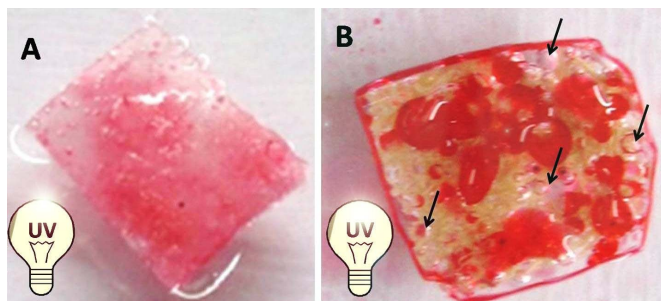


Fig. S5 Exposure to UV light at 300 nm shows (A) No bubbling or desorption in case of undoped PDMS and (B) Bubbling of gases in PDMS-*Luffa*- TiO_2 nanosponge.