

Supplementary information

Fig. S1. Inner image of silicon diatom@MnO₂ nanosheets.

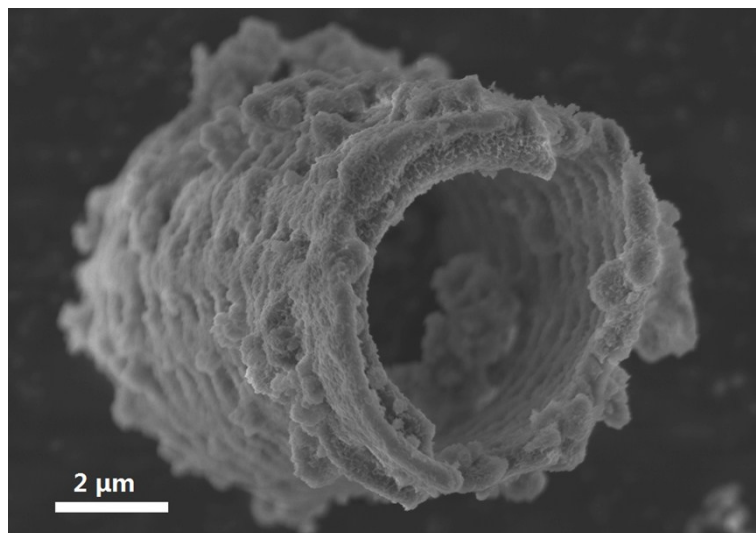


Fig. S2. FTIR spectra of silica and silicon diatoms before (a) and after (b) magnesiothermic reduction showing Si-O-Si stretching peak at 1100 cm^{-1} and Si-H stretching around 2100 cm^{-1} respectively.

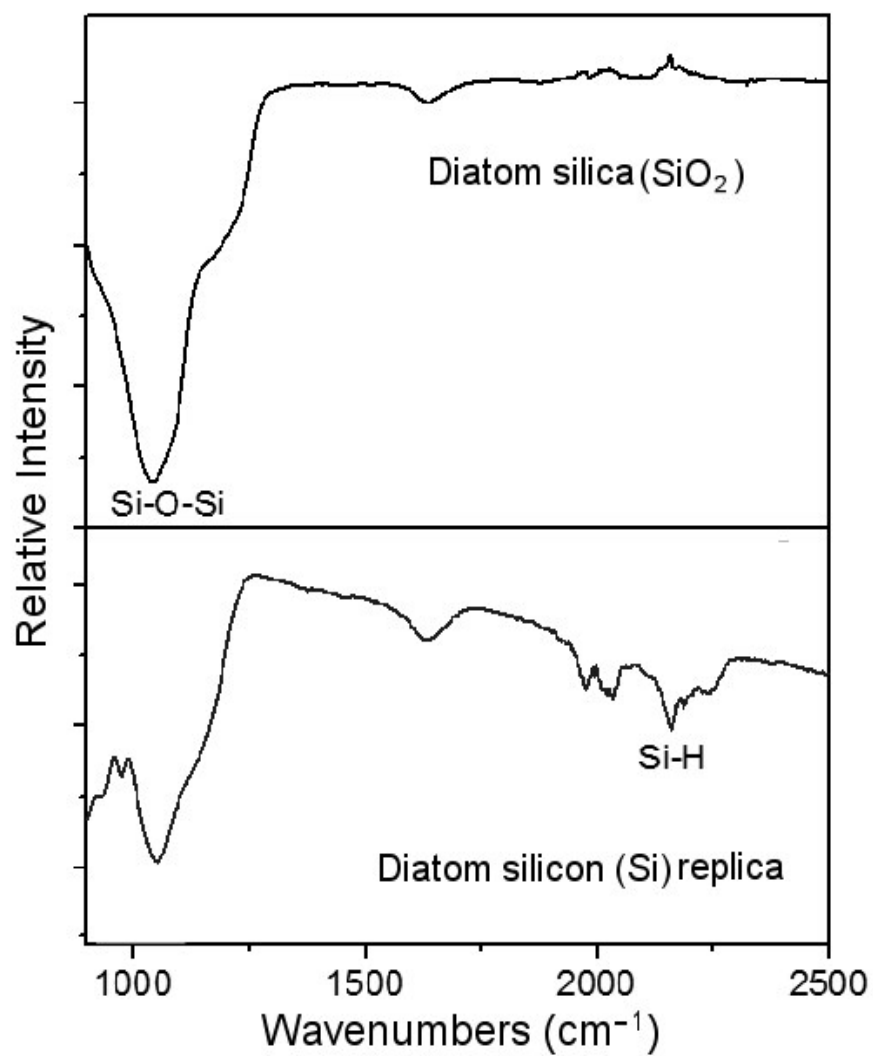


Fig. S3. Digital image of a green light-emitting diode (LED) lighted by the as-prepared ASC device.

