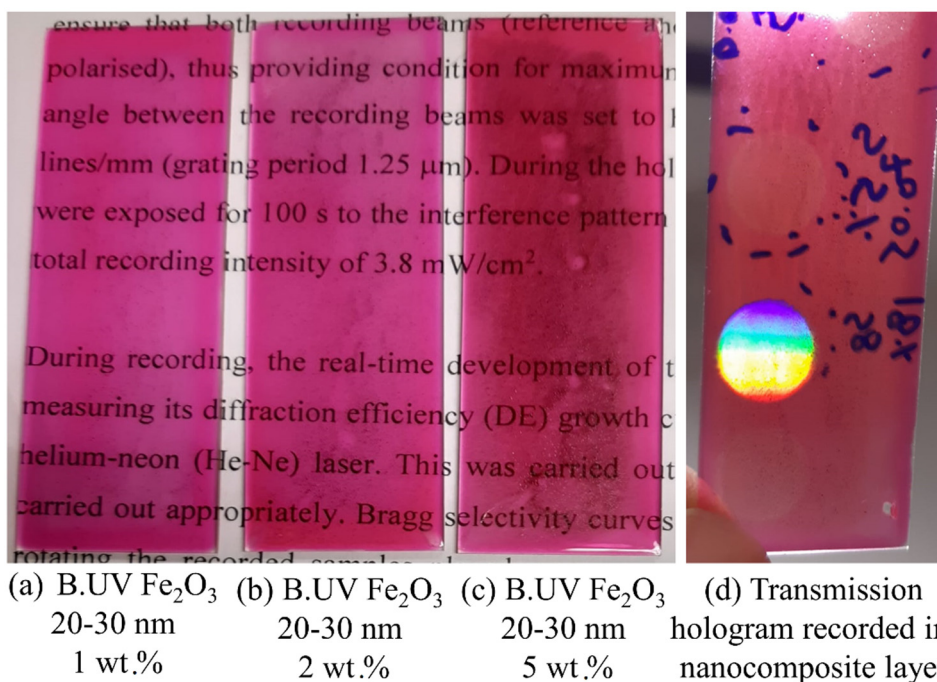


A Magnetic Nanoparticle-Doped Photopolymer for Holographic Recording

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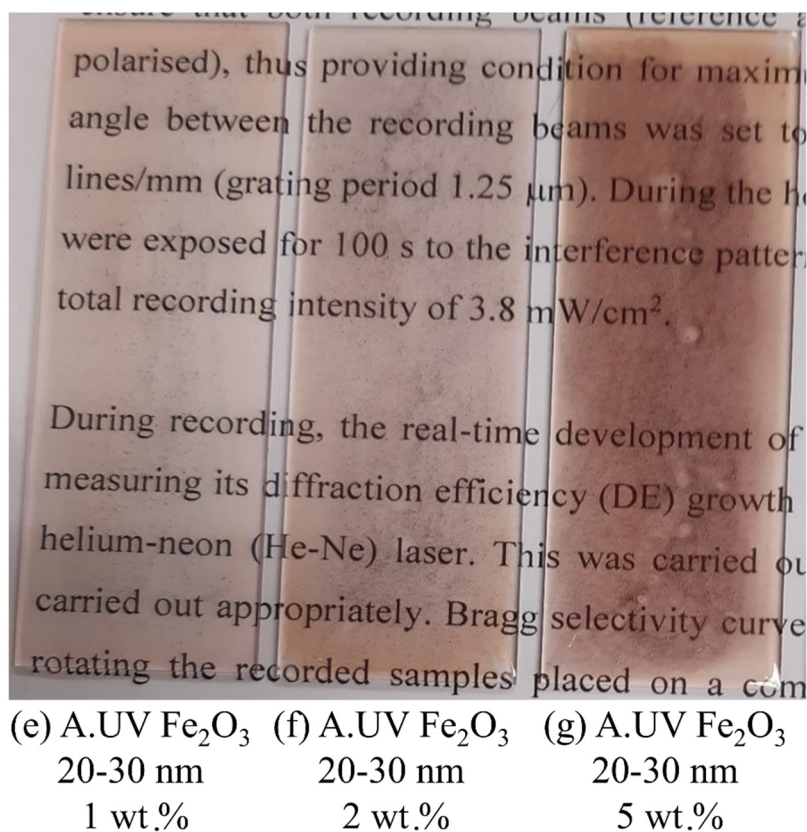


Figure S1. Physical pictures of the photosensitive magnetic nanocomposite layers having MNPs Fe_2O_3 -Alpha 20–30 nm before UV exposure (a) 1 wt.%, (b) 2 wt.%, (c) 5 wt.%, (d) transmission hologram recorded in the magnetic nanocomposite layer and (e) 1 wt.%, (f) 2 wt.%, (g) 5 wt.% are after UV exposure. Layers were exposed for 100 s in Dymax UV-curing system (model ECE-200) and UV intensity of 60 mW/cm².

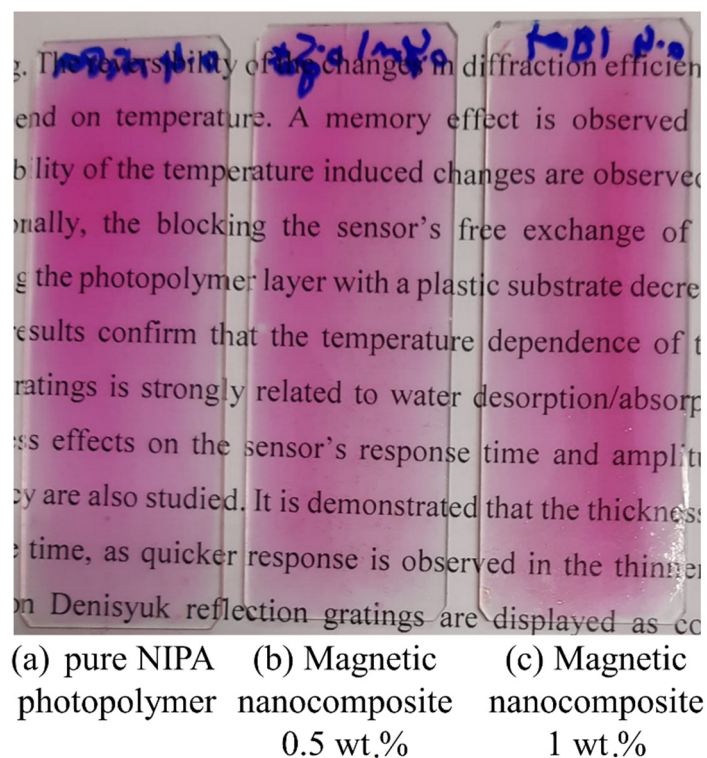


Figure S2. Physical pictures of the layers used in recording Denisjuk reflection holograms. (a) Pure NIPA photopolymer, magnetic nanocomposites having (b) 0.5 wt.%, (c) 1 wt.% of Fe_2O_3 Alpha 20–30 nm.

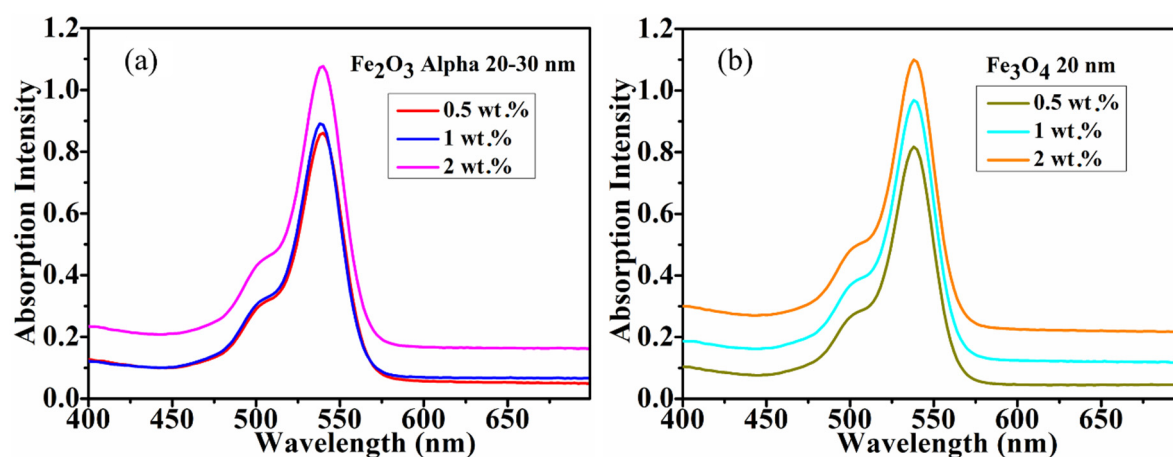


Figure S3. UV-Vis extinction (scattering plus absorption) spectrum of solid layers of photopolymer samples doped with a) Fe_2O_3 and b) Fe_3O_4 nanoparticles.

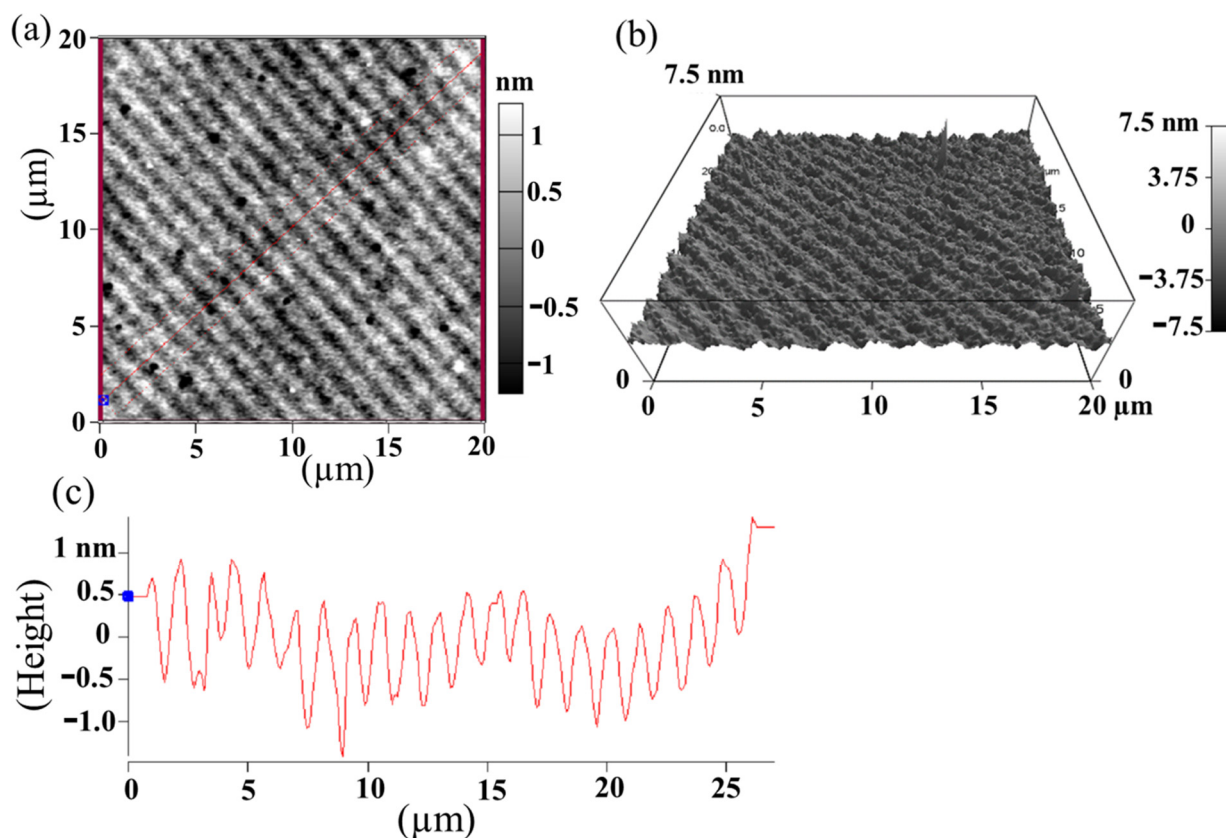


Figure S4. Morphology of the transmission holographic gratings studied by atomic force microscopy (AFM); the gratings were recorded in magnetic nanocomposite layer having MNPs Fe_2O_3 -Alpha 20–30 nm. The grating period obtained is about 1.25 μm , matching the grating period value for the recording spatial frequency of approximately 800 lines/mm used in transmission holographic recording.