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# Supplementary Information

# Multi-photon *in-situ* synthesis and patterning of polymer-embedded nanocrystals

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## 1. Rheological Characterization

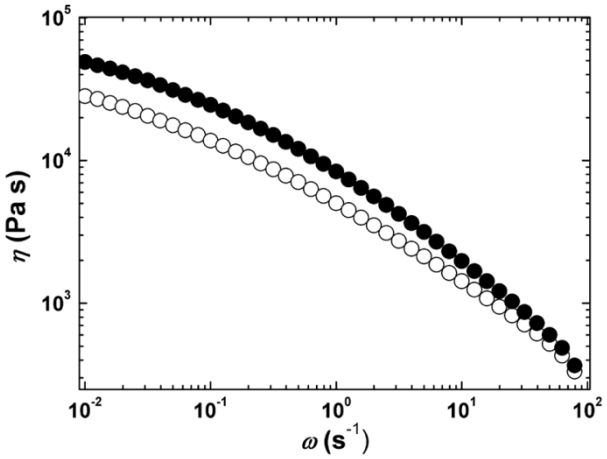


**Figure S1.** Frequency dependence of viscosity, $\eta$, of the TOPAS®-C12 composite before (empty circles) and after (full circles) a thermal treatment at 250°C.

Rheological measurements are carried out by a rotational rheometer (TA Instruments Inc., New Castle, DE). Samples of TOPAS®-C12, before and after thermal treatment at 250 °C, are prepared as disks of about 1 mm thickness and 25 mm diameter, and studied using a parallel plate geometry, at 170°C under nitrogen atmosphere.

## 2. Elemental analysis.

The energy dispersive X-ray spectroscopy (EDS) is performed by using a NOVA NANO 450 scanning electron microscopy system (SEM, FEI), equipped with a QUANTAX (Bruker) detector. Figures S2a-d show the C, O, Cd and S elemental maps, measured after the in-situ synthesis by the laser exposure, displaying almost uniform dispersion of the Cd and S elements in the nanocomposite.

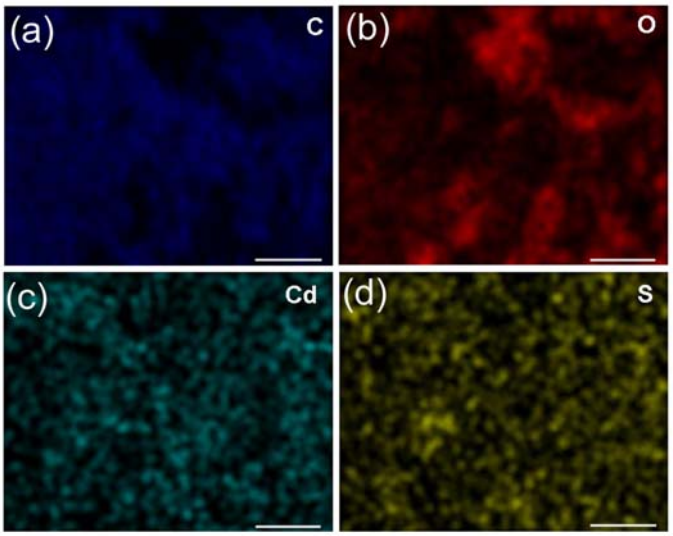


**Figure S2**. (a)-(d) Maps of the intensity of the peaks characteristic of C, O, Cd and S, respectively. Marker: 80 μm.