Supplementary Material (ESI) for Polymer Chemistry

Supporting Information for

Network Structure-Property Relationship in UV-cured Organic/Inorganic Hybrid Nanocomposites

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Synthesis of MONC resin.

MONC resin is synthesized via non-hydrolytic sol-gel reaction of MPTS and DPSD. MPTS was mixed with barium hydroxide monohydrate as the reaction catalyst and the mixture was reacted with DPSD in a 2-neck flask at 80^{o}C under N_2 purging for 4 hours. Molar ratio of MPTS to DPSD was fixed to be 1:1. The liquid product is then mixed with 2,2-dimethoxy-2-phenylacetophenone (photo-initiator) and filtrated through a 0.45 μm Teflon filter. The final product was prepared as transparent, colorless resin. Details of basic information on the molecular structures can be found in our early works[26, 46], including ^{29}Si NMR, FT-IR etc.