

Firstly, the PU/GTR elastomer was immersed in DMF solvent for 72 h (as shown in Figure S2). And then the GTR sample was obtained by centrifugation treatment (7000 rpm, 10 min) after repeated cleaning of DMF.

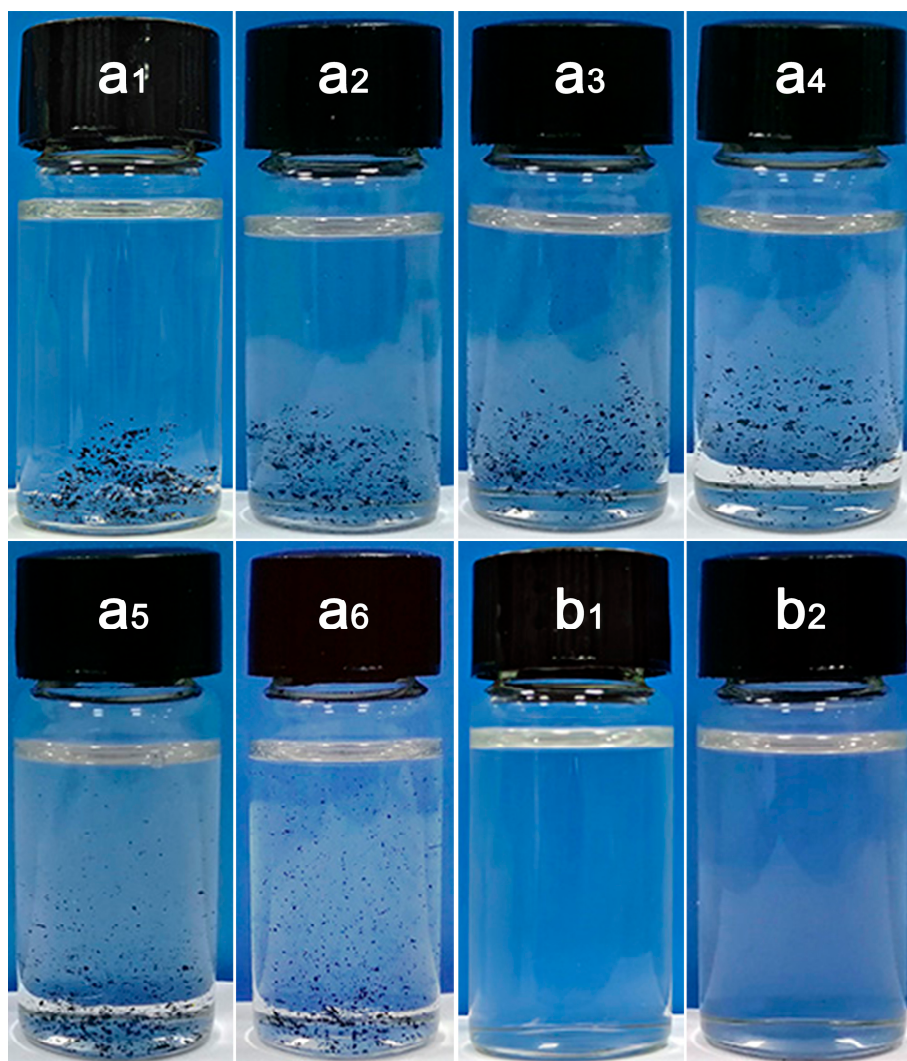


Figure S2. Dissolved PU-4 (a₁~a₆) and PU-7 (b₁~b₂) in DMF solvent: a₁~a₆: 12 h, 24 h, 36 h, 48 h, 60 h, 72 h; b₁~b₂: 12 h, 24 h

Due to absence of the “crosslinked network”, the pure polyurethane (PU-7) was completely dissolved in DMF solvent within 24 hours (Figure S2 b₁~b₂) under the same conditions. However, it needed 72 hours for the PU/GTR elastomer (PU-4) to completely dissolve in DMF solvent, which indirectly proved that there was “crosslinked network” indeed existed in polyurethane matrix.