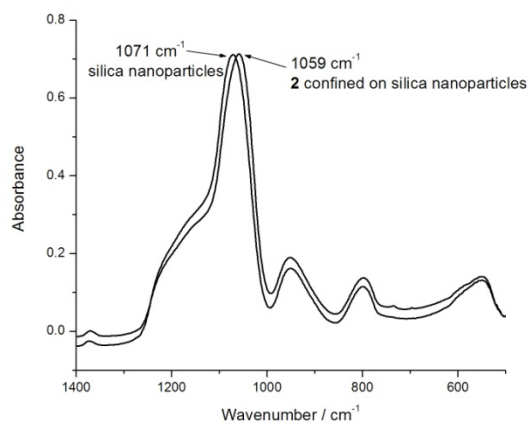
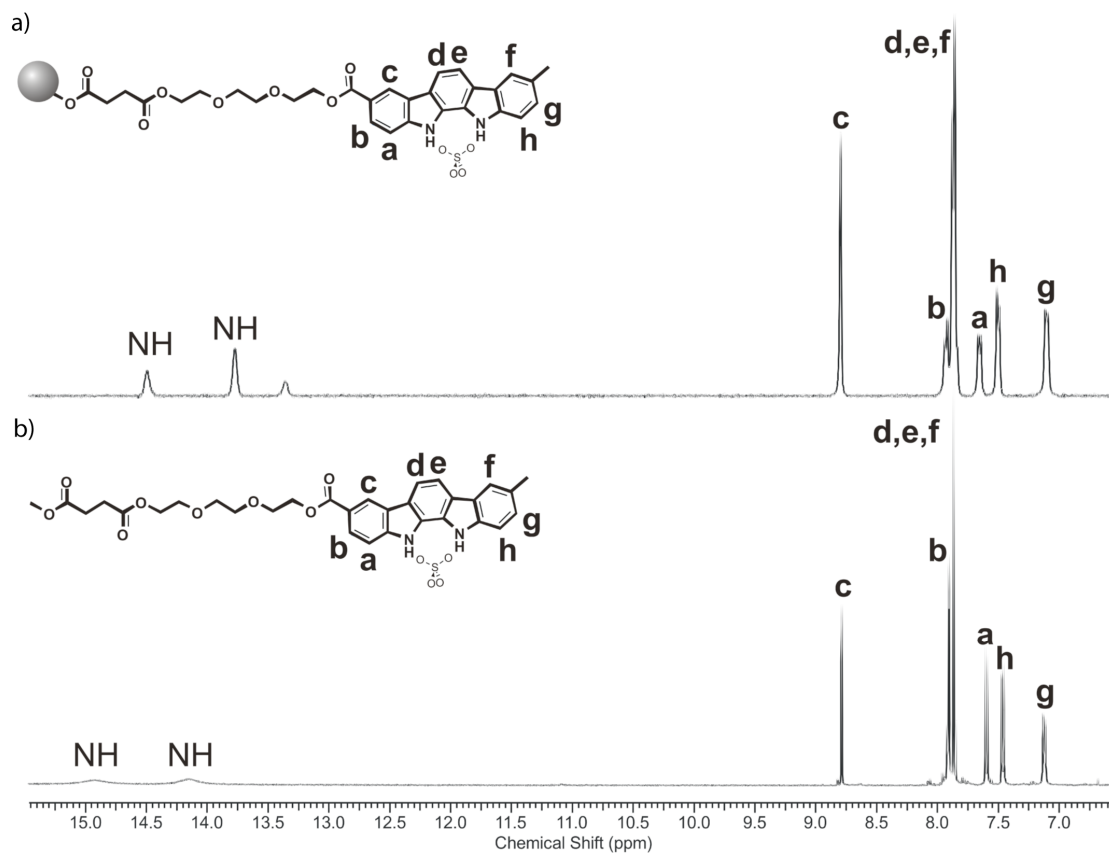


## Supplementary Information

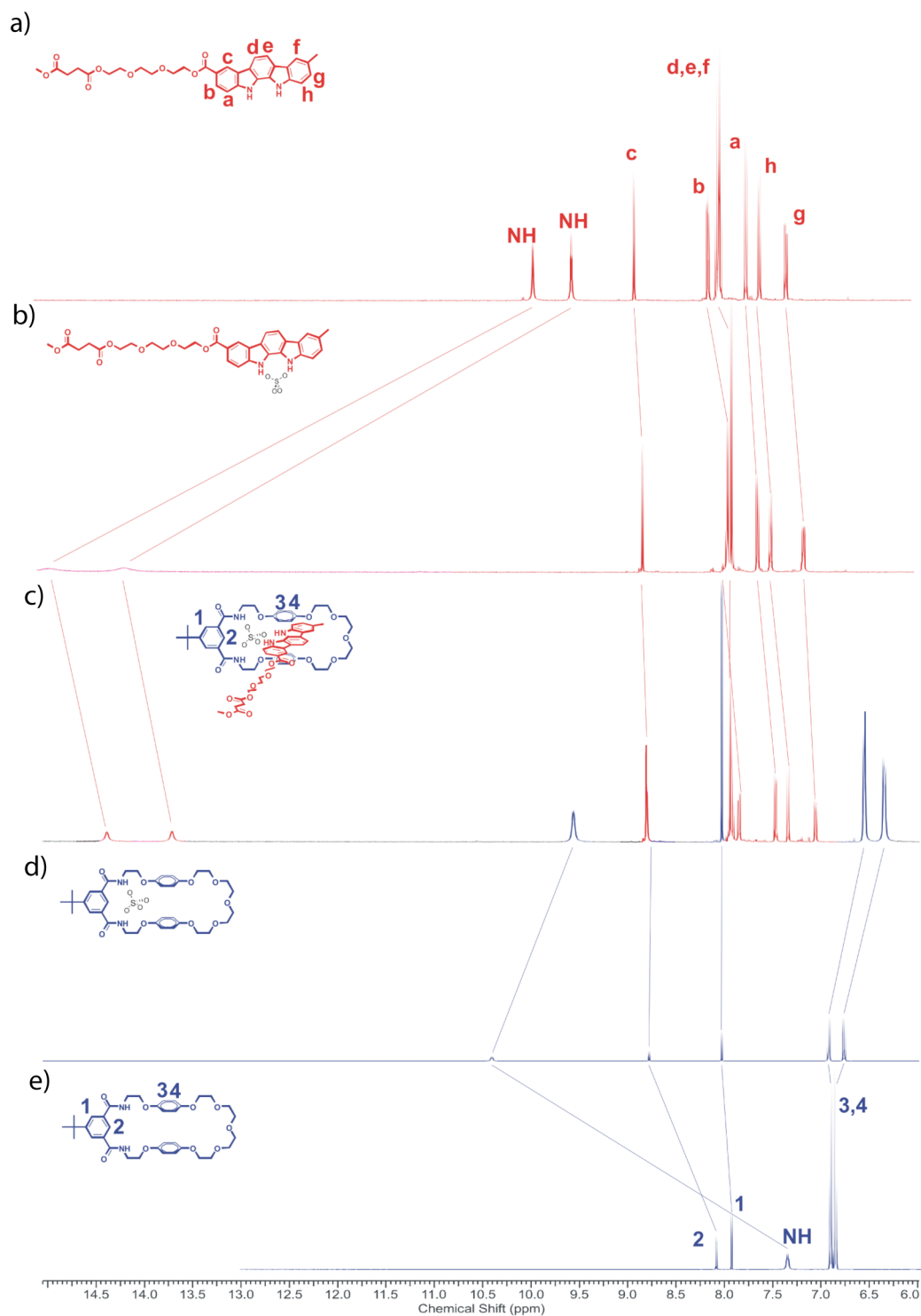


**Fig. S1.** FTIR spectra of silica nanoparticles and inolocarbazole axle functionalized silica nanoparticles.

The shift of Si-O-Si stretching mode from 1071 cm<sup>-1</sup> for the bare silica nanoparticle to 1060 cm<sup>-1</sup> of **8** functionalized silica particles is attributable to an increase in the Si/O ratio with covalent condensation at the surface.<sup>1,2</sup>



**Fig. S2.** Direct NMR comparison between solution phase and solid bound indolocarbazole threads; top spectrum - HR MAS  $^1\text{H}$  NMR spectrum of TentaGel™—OH bound indolocarbazole **4** plus excess  $(\text{TBA})_2\text{SO}_4$  in  $\text{CD}_3\text{CN}$ ; bottom spectrum -  $^1\text{H}$  NMR spectrum of indolocarbazole **13** plus 1 equivalent of  $(\text{TBA})_2\text{SO}_4$  (3 mM) in  $\text{CD}_3\text{CN}$ .



**Fig. S3.** <sup>1</sup>H NMR spectra of a) indolocarbazole **13** b) a 1:1 mixture of **13** and (TBA)<sub>2</sub>SO<sub>4</sub> c) a 1:1:1 mixture of **13**, (TBA)<sub>2</sub>SO<sub>4</sub> and macrocycle **1** d) a 1:1 mixture of macrocycle **1** and (TBA)<sub>2</sub>SO<sub>4</sub> and e) macrocycle **1** in CD<sub>3</sub>CN at 18.5 °C. All components are at a concentration of 3 mM.

## References

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2. M. K. Weldon, B. B. Stefanov, K. Raghavachari and Y. Chabal, *Phys. Rev. Lett.*, 1997, **79**, 2851-2854.