

Description of Additional Supplementary Files

File Name: Supplementary Movie 1

Description: **Assembly process of pBDT and polyphenols in water.** Evolution of the complex formation between pBDT (blue) and CAT (red) molecules in water during ~10 ns of MD simulation.

File Name: Supplementary Movie 2

Description: **Disassembly process of pBDT and polyphenols in DMF.** Evolution of the disassembly in DMF of the complex preformed in water between pBDT (blue) and CAT (red) molecules.