

**Figure S1**. Cryo-TEM image of a supramolecular structure formed by  $C_{16}p53$  in PBS 10mM reveals twisted ribbon morphology (A). Profiles of grey value across the lines indicated in (A) were used to measure the width of the structure at different positions along the long axis of the structure. Scale bar: 100  $\mu$ m.



Figure S2. Examples of  $C_{16}$ p53 structures imaged by cryo-TEM in PBS 10mM. Scale bar: 100  $\mu$ m.



Figure S3. Atomic force micrograph of  $C_{16}$ p53 aqueous solution dried on mica.



**Figure S4**. AFM height (left) and amplitude (right) image of  $C_{16}A_4p53$  in presence of 1 M MgCl<sub>2</sub>. Image was acquired in tapping mode in liquid.



Figure S5. Negative stain TEM of  $C_{16}A_4p53$  in the presence of 1 M MgCl<sub>2</sub>.