Supporting Information

Oxidation induced self-assembly transformation of dendron-*b*-oligoaniline-*b*-dendron dumbbell shape triblock oligomer

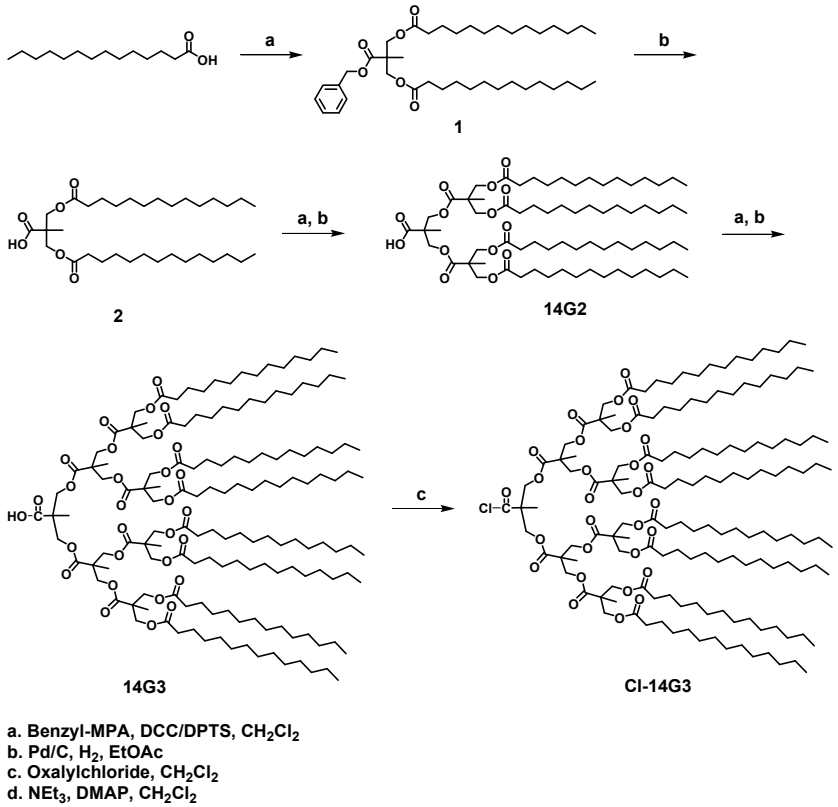
Wei Xiong, Hanfu Wang, Yanchun Han*

State Key Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, 5625 Renmin Street, Changchun 130022 P. R. China

Tel.: +86-431-85262635, E-mail: hfwang@ciac.jl.cn.

Synthesis of Cl-14G3

Synthetic procedure for Cl-14G3 is shown in Scheme S1.



Scheme S1 Synthetic procedure of Cl-14G3

12.01 g (53.56 mmol) Benzyl-MPA, 25.06 g (109.73 mmol) myristic acid and 6.36 g (21.60 mmol) DPTS are dissolved in 120 ml of CH_2Cl_2. After stirring for 10 min, 27.55 g (133.52 mmol) DCC is added. The mixture is stirred at 30 ^oC overnight under argon. The DCC-urea by-product is filtered off. After evaporation of CH_2Cl_2, the residue is re-crystallized from anhydrous ethanol to yield **1** as white solid.

24.80 g (38.45 mmol) **1** is dissolved in 100 ml of EtOAc. 2.51 g (2.36 mmol) of Pd/C is added. The reaction vessel is evacuated and filled with H_2. The mixture is stirred at 30 ^oC for 15 h. When the reaction is completed, the catalyst is filtered off and carefully washed with EtOAc for several times. The filtrate is combined and

evaporated to give **2** as white crystals.

Repeating reaction a and b with **2** gives **14G2** as white solid. Repeating reaction a and b with **14G2** gives **14G3** as white solid.

2.51g (1.0 mmol) 14G3 is dissolved into 50 ml dry CH_2Cl_2 under Ar followed by adding of 10 drops of DMF. 0.32 g oxalylchloride is dissolved into 15 ml dry CH_2Cl_2 and added dropwise into 14G3 solution within half an hour. The mixture is allowed to stir at room temperature for 3h. After that, the solvent and extra oxalylchloride are evaporated out of the mixture by rotating evaporator. The solid obtained is re-dissolved into 20 ml dry CH_2Cl_2 and subjected directly to the synthesis of block oligomer.

AFM surface profile analysis of de-protected 14G3A7 oxidized with different time

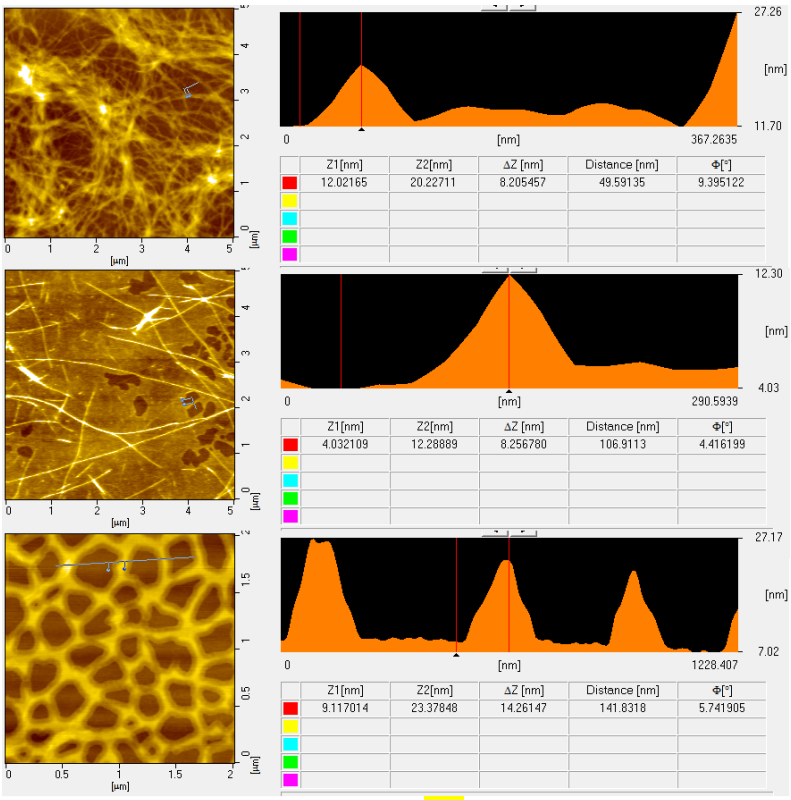


Figure S1 AFM surface analysis of the fibril, the single-layer film and the network self-assembled from de-protected 14G3A7 oxidized for different time.