Figure S1.

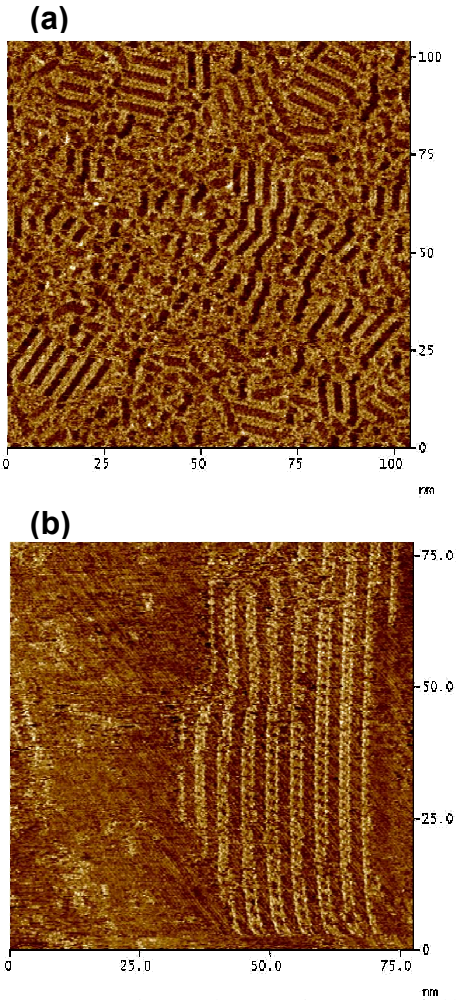

Fig. S1 Large area STM images of (a) QCG/BT-O-C16 assembly (104.1 nm × 104.1 nm, V = 675.0 mV, I = 473.0 pA) and (b) （DAKA)$_4$/BT-O-C16 assembly on HOPG surface (77.5 nm × 77.5 nm, V = 699.8 mV, I = 537.0 pA).

After the introduction of tripeptide QCG into the assembly system, no QCG/BT-O-C16 co-assembly can be observed. The ladder-like assembly of BT-O-C16 is retained with smaller domain areas for the mixed system, while QCG self-assembly could not be observed in the present conditions which may be ascribed to the higher mobility of the shorter peptides. Phase separation is observed for (DAKA)$_4$/BT-O-C16 mixture showing the typical lamella structures for hexadecapeptide (DAKA)$_4$ and ladder-like structural domains for BT-O-C16 molecules. The observation of the entrapped pentapeptide other than tri- and hexadeca- peptides in the BT-O-C16 network confirms the length selectivity of the peptides in the peptide/BT-O-C16 complex.