Supplementary information

Table S1. The Glutaraldehyde cross-linked assay of insulin fibrils. The 25 μM insulin fibrils were obtained by incubating 25 μM insulin in pH1.0 at 37˚C for 15 hours. Afterwards, 5% glutaraldehyde at the final concentration was added to each solution for stablizing the fibril structure. Subsequently, the fluorescence intensity of ThT were decreased after adding SWNTs suggesting that SWNTs can clelate ThT from fibrils.

The fluorescence intensity	After 0h incubation at 37˚C	After 15h incubation at 37˚C	After 10min incubation with 5% glutaraldehyde at 37˚C	Cross linked insulin fibrils After adding SWNTS		After 5min incubation at 37˚C
20μM Insulin	2802	22214	18477	20μM Insulin	13143	11644
20μM Insulin	2862	25332	21533	20μM Insulin_0.05mg/ml SWNTs	2095	1812
20μM Insulin	2807	37356	32274	20μM Insulin_0.005mg/ml SWNTs	10341	9088
20μM Insulin	2856	39949	36667	20μM Insulin_0.0005mg/ml SWNTs	26347	24050

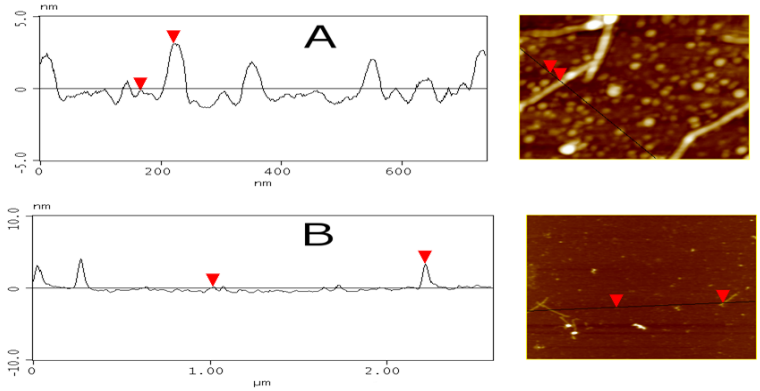

Figure S1. The heights of amyloid beta peptide(a) and SWNTs(b) after 1 hour incubation at 37 degree, 200 rpm in shaker. The height of amyloid beta peptide and SWNTs are 3.3 and 3.2 nm, respectively. The sizes of a and b images are 800×800nm and 2300×2300nm, respectively.

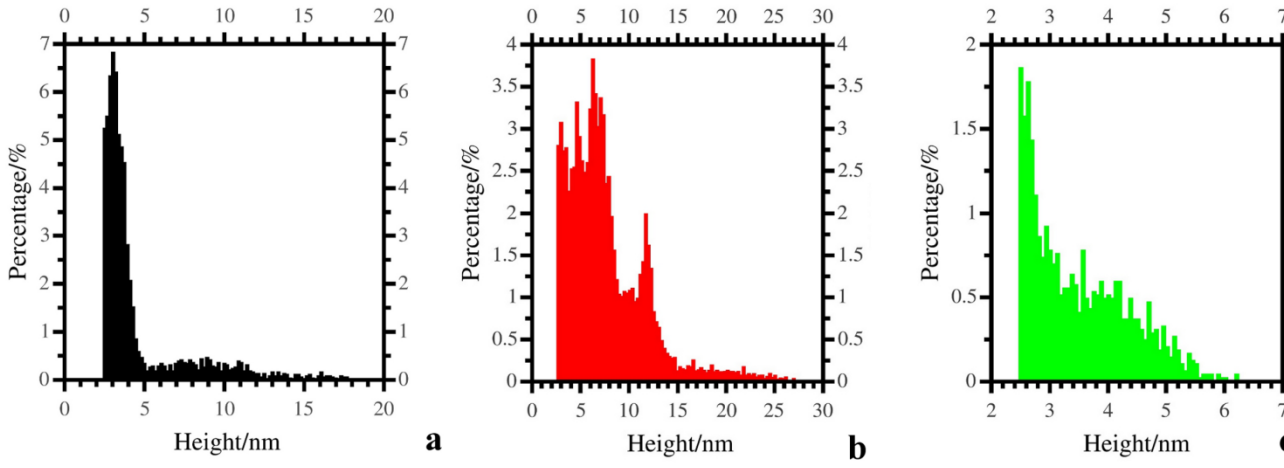

Figure S2. The height distribution corresponding to figure 2 of Aβ-coated SWNTs at pH5.5(a), pH7.4(b) and pH9(c).

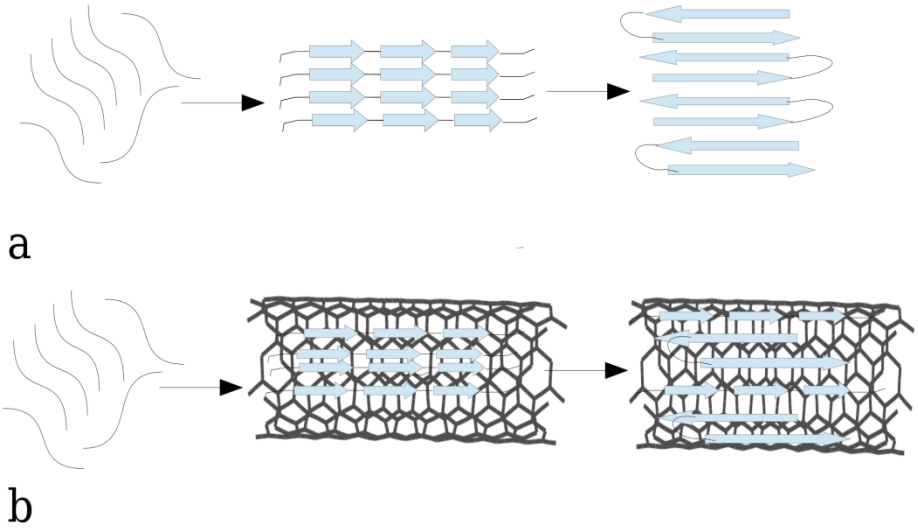

Figure S2. Cartoon illustration of the proposed Aβ peptide aggregation in (a) the absence and (b) the presence of SWNTs. In the absence of SWNTs, antiparallel cross-beta strands are formed after the formation of parallel beta strands, and then coalesce into the amyloid fibril. In the presence of SWNTs, the parallel beta strands are scavenged by the SWNTs and the structural rearrangement of these parallel beta sheets into the cross-beta structure on the SWNTs is slow.