

## Supporting Information

# Molecular Recognition at Nanoscale Interface within Carbon Nanotube Bundles

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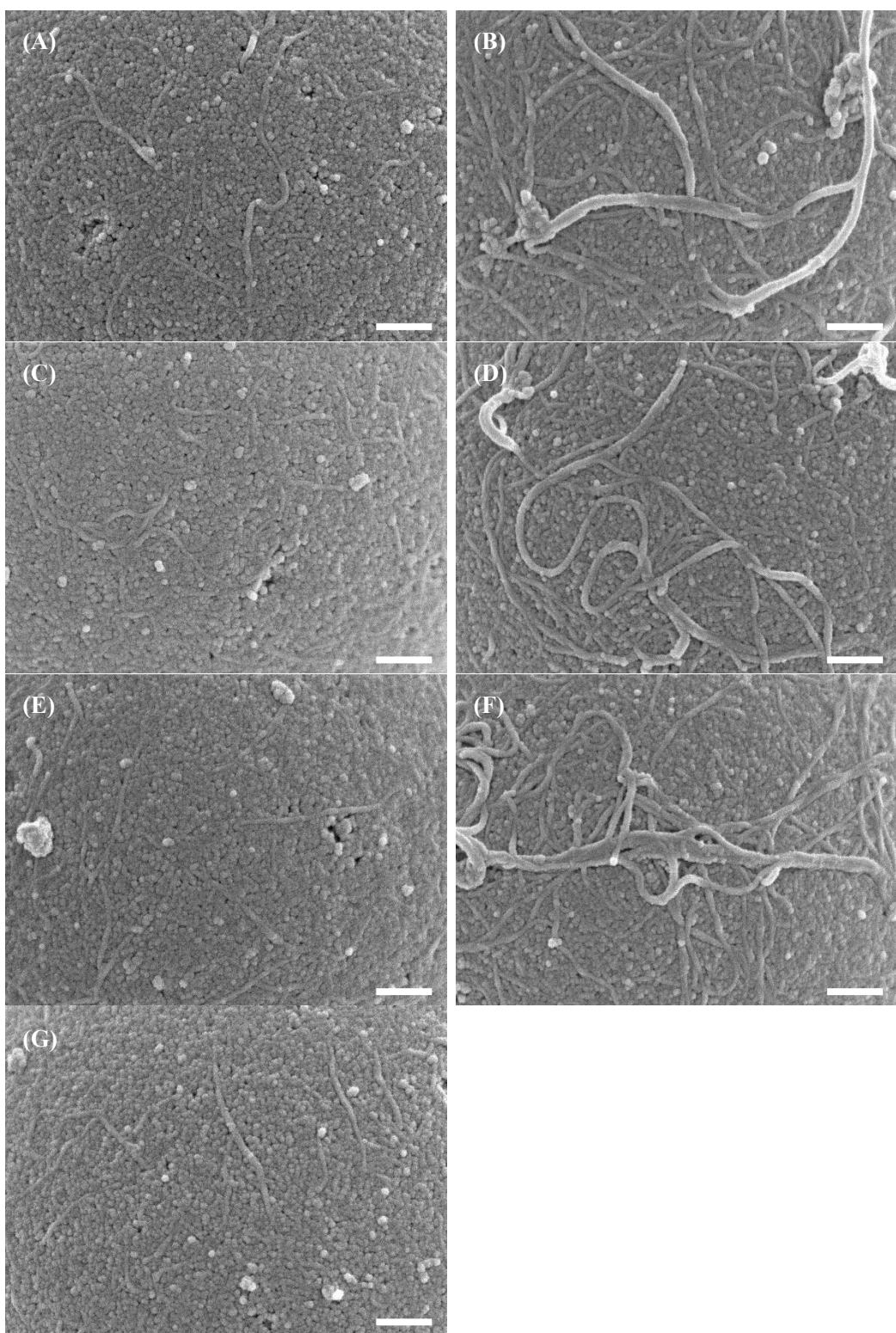
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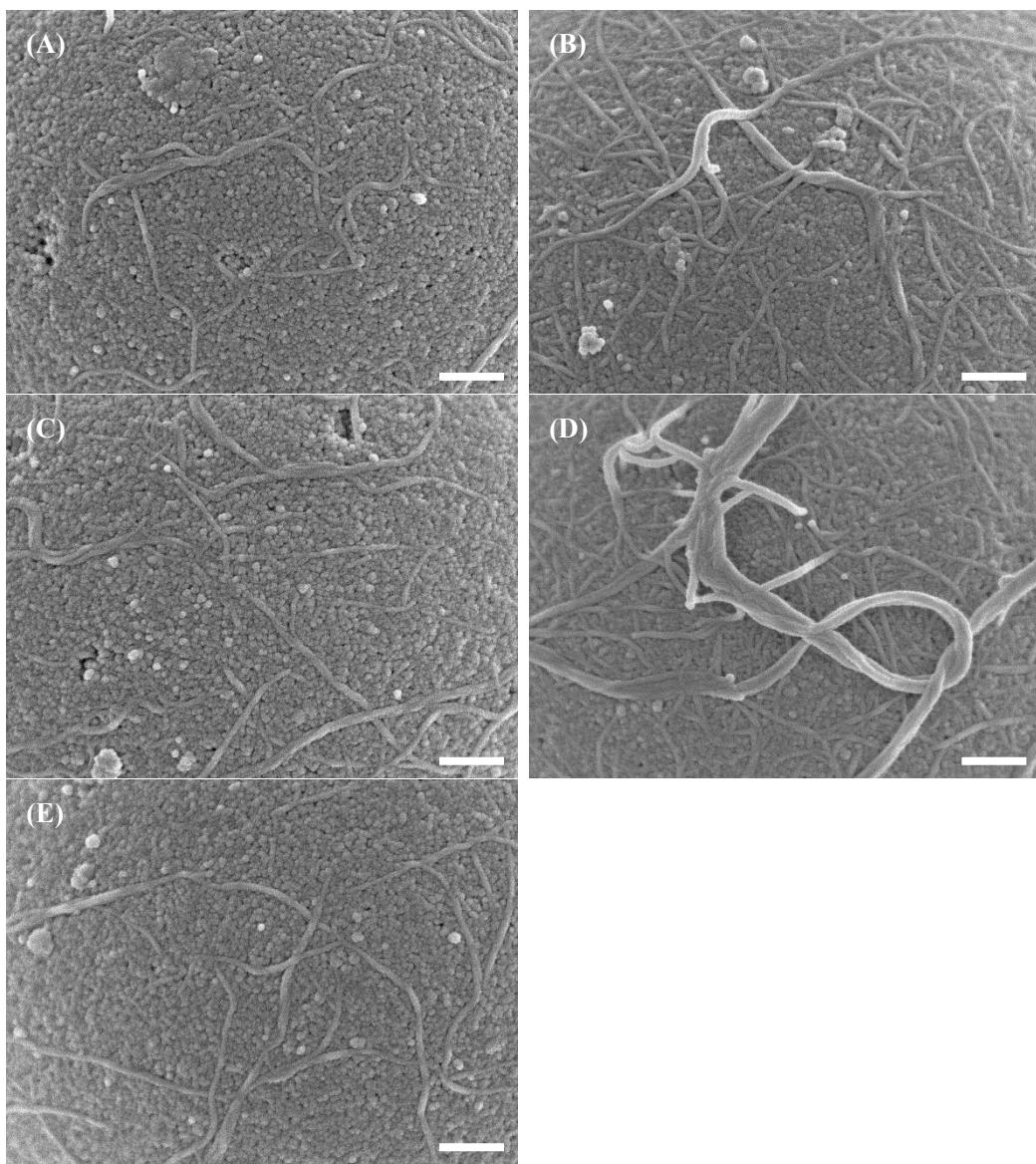
*Fukuoka 819-0395, Japan*

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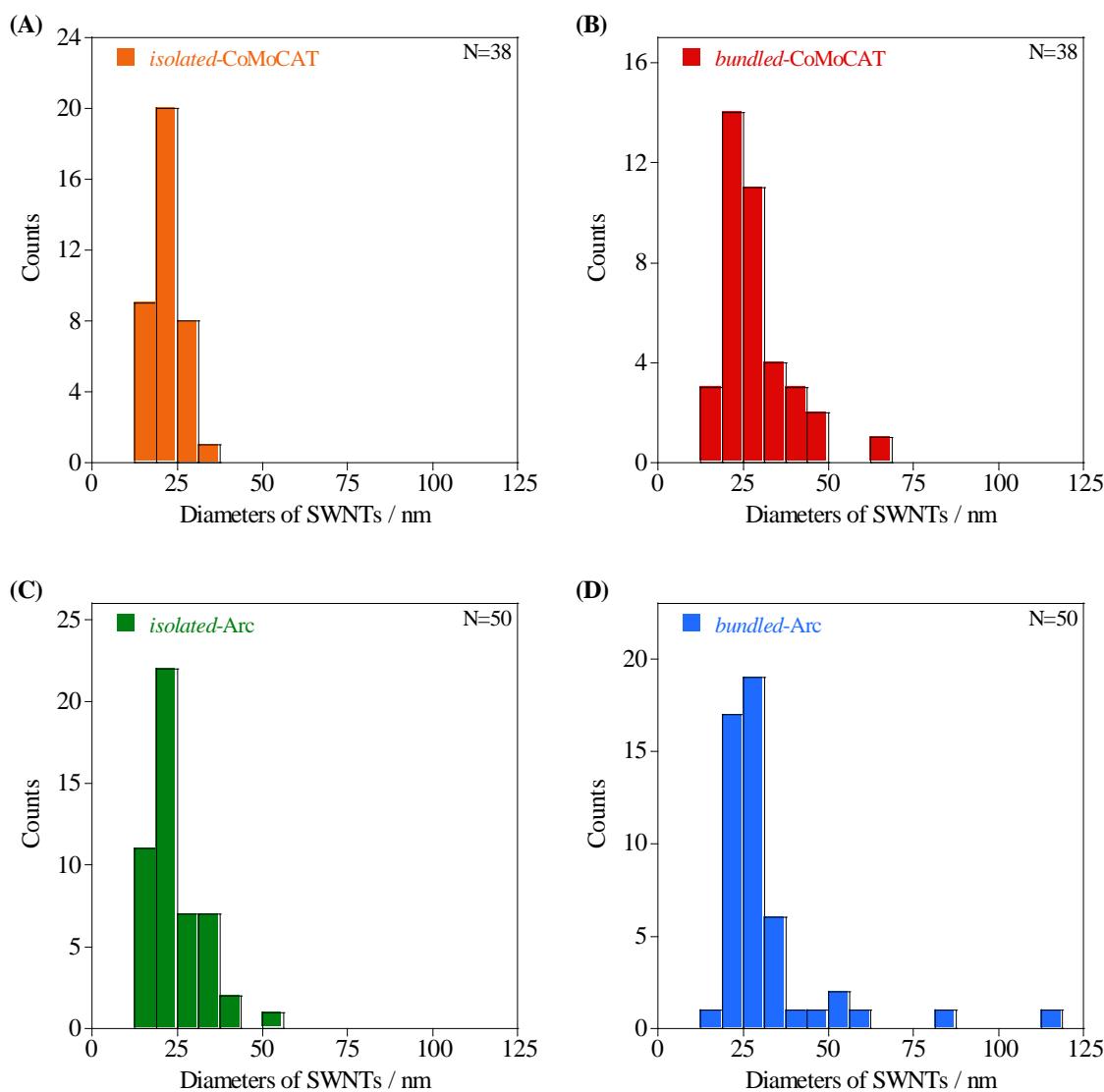
*Sanbancho, Chiyoda-ku, Tokyo 102-0075, Japan*



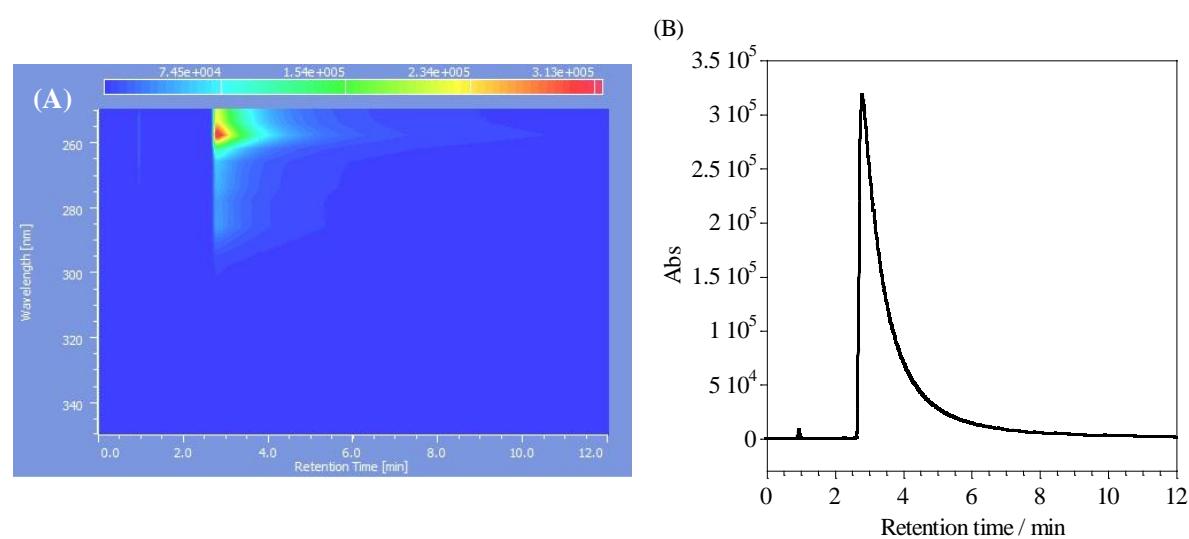
**Fig. S1** SEM images of (A, C, E, G) *isolated-* and (B, D, F) *bundled*-CoMoCAT-silica in different areas. Scale bars: 200 nm.



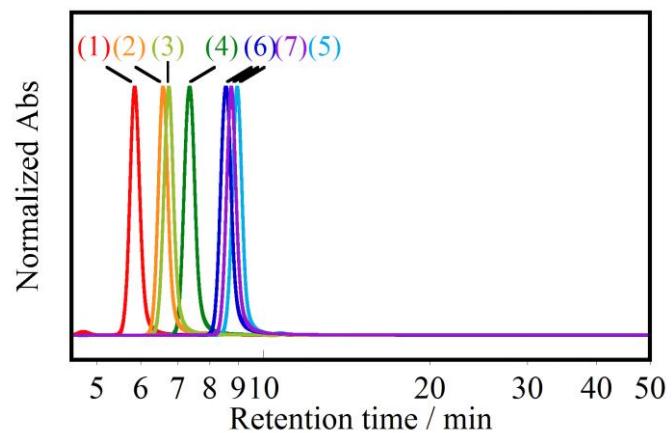
**Fig. S2** SEM images of (A, C, E) *isolated-* and (B, D) *bundled-*Arc-silica in different areas.  
Scale bars: 200 nm.



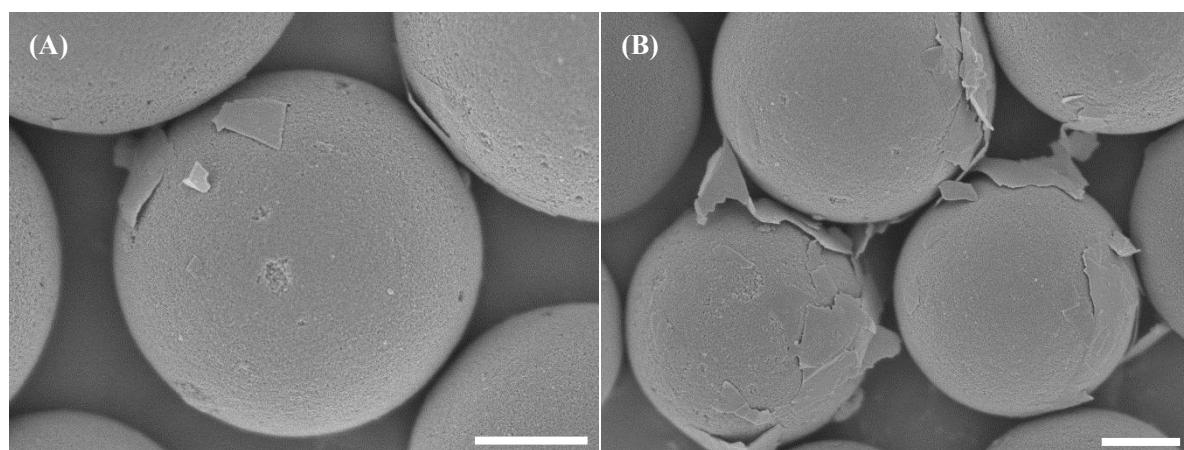
**Fig. S3** Diameter histograms of SWNTs coated on silica spheres for (A) *isolated-* and (B) *bundled-CoMoCAT*-silica and (C) *isolated-* and (D) *bundled-Arc*-silica.



**Fig. S4** (A) 2D map scanned by the UV detector (MD-2018, JASCO) using triphenylene as the analyte. (B) A chromatogram at 258 nm extracted from the 2D map.



**Fig. S5** Chromatograms of (1) fluorene, (2) anthracene, (3) *p*-terphenyl, (4) pyrene, (5) triphenylene, (6) 1,2-benzanthracene and (7) chrysene obtained from NH<sub>2</sub>-column using 99/1 (v/v) *n*-hexane/acetonitrile as the mobile phase at the flow rate of 0.1 mL/min.



**Fig. S6** SEM images of (A) *isolated-* and (B) *stacked-GNP-silica*. Scale bars: 1  $\mu\text{m}$ .