## **Supporting Information**

## Noncovalent Assembly of Carbon Nanotube-Inorganic Hybrids Xianglong Li,\*<sup>*a*</sup> Yujun Qin,<sup>*b*</sup> S. T. Picraux\*<sup>*a*</sup> and Zhi-Xin Guo\*<sup>*b*</sup>

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|    | functional molecule   | inorganic                          | in-situ/ex-situ | Ref.    |
|----|---|------------------------------------|-----------------|---------|
| 1  | SH  | Au                                 | ex situ         | 32      |
| 2  | SH  | Au                                 | ex situ         | 33      |
| 3  | COOH  | TiO <sub>2</sub>                   | ex situ         | 34      |
| 4  |   | Pd                                 | in situ         | 35      |
| 5  | NH <sub>2</sub>   | CdS                                | ex situ         | 36      |
| 6  |   | SiO <sub>2</sub>                   | in situ         | 41      |
|    |   | Pt                                 | in situ         | 42      |
|    | 0   | Ru                                 | in situ         | 43      |
| 7  |   | ZnO, MgO                           | in situ         | 45      |
| 8  | N<br>Br   | SiO <sub>2</sub>                   | in situ         | 46      |
| 9  | Br<br>N   | CdS                                | in situ         | 47      |
| 10 | $\sim \sim $ | Pd                                 | in situ         | 35      |
| 11 | SH  | Pt                                 | ex situ         | 56, 57a |
|    |   | Ag                                 | ex situ         | 57b, 58 |
| 12 | NH <sub>2</sub>   | Pt                                 | in situ         | 62      |
| 13 | NH <sub>2</sub>   | Au                                 | ex situ         | 51      |
| 14 | ⊂ CH  | TiO <sub>2</sub>                   | in situ         | 66      |
| 15 | N   | CdSe, CdSe/ZnS                     | ex situ         | 65      |
| 16 |   | Au, Pt                             | ex situ         | 67      |
| 17 | $N^{N}_{N} N^{H_2}$   | Au                                 | ex situ         | 67      |
| 18 | BF <sub>4</sub>   | Pt, Pd, Au, Ag, SnO <sub>x</sub> , |                 |         |
|    |   | $FeO_x, ZnO_x$                     | in situ         | 68a     |
|    |   | Pt, Ru, Rh, Ir, PtRu               | in situ         | 68b     |
| 19 |   | Au                                 | ex situ         | 51      |
| 20 |   | Pt                                 | ex situ         | 63b     |
| 20 |   |                                    | in city         | 61      |
| 21 |   | Ku, Uu, Zn, Sn                     | in situ         | 04      |

## Table S1. Functional small molecules for constructing the CNT-inorganic hybrids.

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| 22 | $\bigcirc$   | Pt  | ex situ | 63a |
|----|--|---|---------|-----|
|    |  |   |         |     |
| 23 | H <sub>2</sub> N S NH <sub>2</sub>   | Au  | ex situ | 59  |
| 24 | $N_{1}$ NH <sub>2</sub>  | PtRu                                      | in situ |     |
|    |  | Pd  | in situ | 60  |
| 25 |  | CdSe                                      | ex situ | 61  |
| 26 | O<br>,<br>,<br>,<br>,<br>,<br>,<br>,<br>,<br>,<br>,<br>,<br>,<br>,<br>,<br>,<br>,<br>,<br>,<br>, | Au  | ex situ | 49  |
| 27 | N ( ) ( OH   | Fe <sub>3</sub> O <sub>4</sub> , CoPt, Co | ex situ | 50  |
| 28 | NH <sub>2</sub>  | Au  | ex situ | 51  |
| 29 | O<br>O<br>O<br>O   | CdSe                                      | ex situ | 53  |
| 30 | HN-TGTTGCAGCACTAGC   | Au  | Ex situ | 54  |
| 31 |  | CdTe                                      | ex situ | 55  |
| 32 | NH <sub>2</sub>  | Pt, CdS, SiO <sub>2</sub>                 | in situ | 52  |