

Supporting information

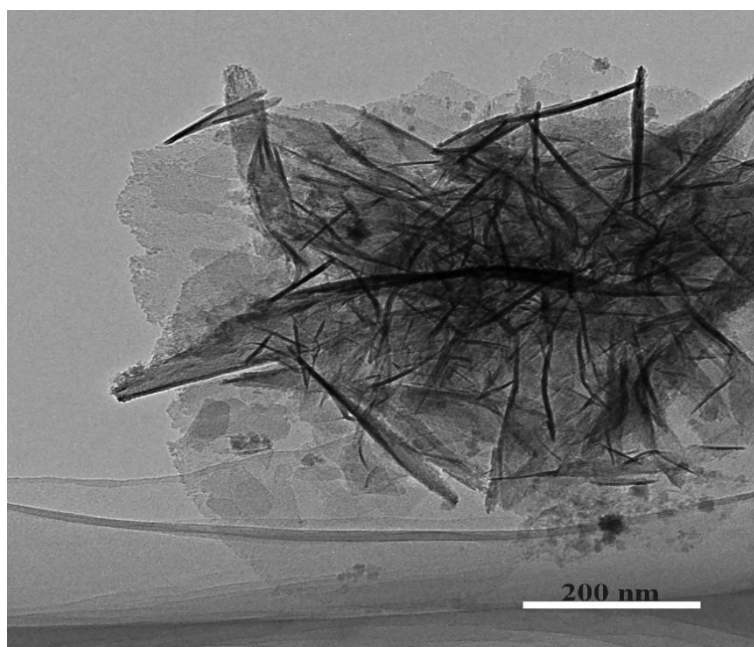


Figure S1. The TEM image of Pd-FONG-3

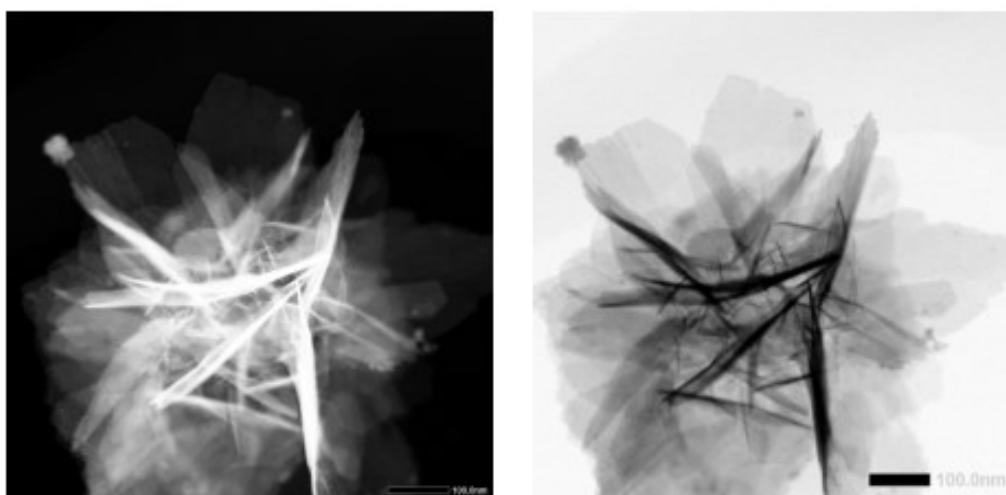


Figure S2. The STEM images of Pd-FONG-3

Table S1 N species in Fe₃O₄-NG, Pd-FONG-3 and Pd-NG-3 by XPS analysis

| Catalyst | Nitrogen functional groups (BE, eV) | | | |
|------------------------------------|-------------------------------------|-------------|----------------|-----------------|
| | pyridinic-N (%) | amine-N (%) | pyrrolic-N (%) | graphitic-N (%) |
| Fe ₃ O ₄ -NG | 33 | 27 | 19 | 21 |
| Pd-FONG-3 | 39 | 29 | 17 | 15 |
| Pd-NG-3 | 36 | 30 | 25 | 9 |