

## Supporting information

Table S1 Particle size for CNFs based catalysts

Catalyst	Mean size	Standard deviation
Au/PS-CNF	3.6	0.5
Pt/PS-CNF	3.5	0.7
Au-Pt/PS-CNF	5.6	1.1
Au-Pt/LHT-CNF	4.9	0.9
Au-Pt/ HHT-CNF	4.5	0.7
Au-Pt/P- PS-CNF	5.2	0.9
Au-Pt/P- LHT-CNF	4.3	0.3
Au-Pt/P- HHT-CNF	3.9	0.3

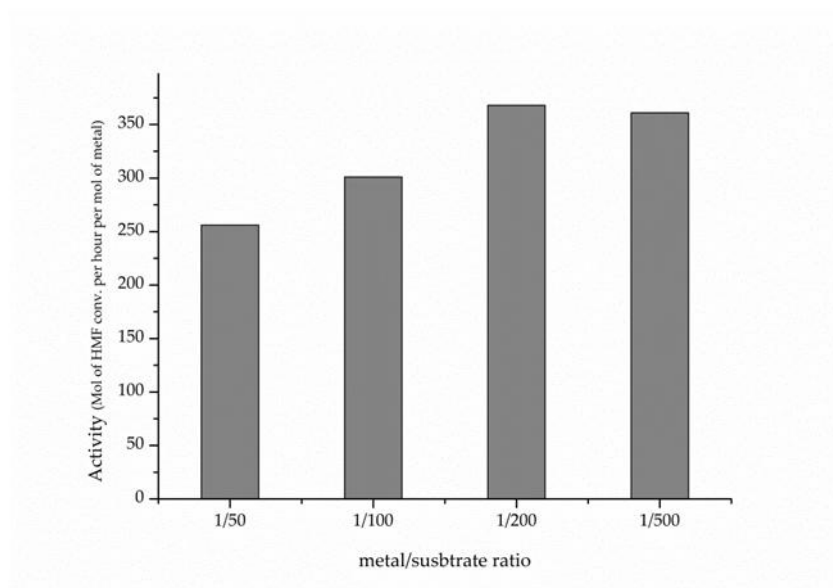


Figure S1 Effect of Metal/substrate ratio using Au-Pt/P-HHT-CNF

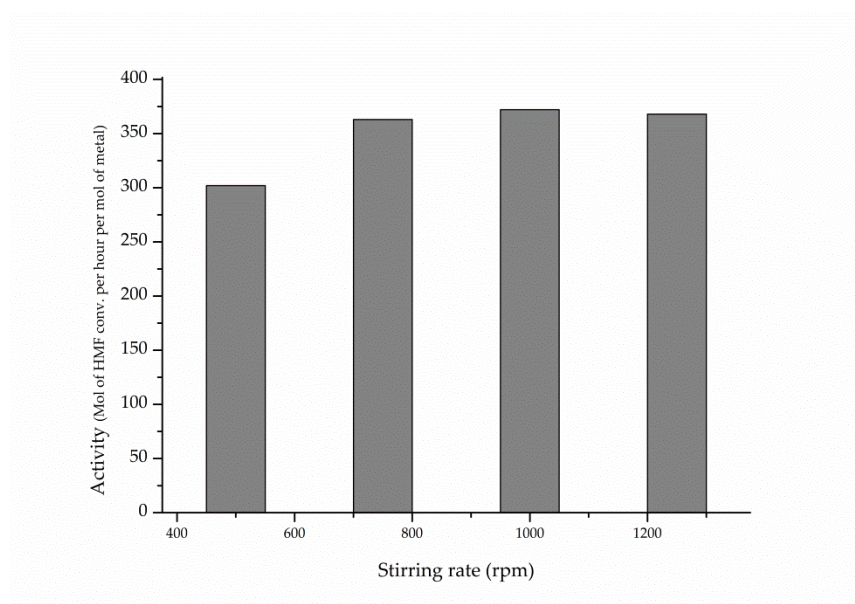


Figure S2 Effect of stirring rate using Au-Pt/P-HHT-CNF