

Supplementary Information

Raman Characterization of Pseudocapacitive Behavior of Polypyrrole on Nanoporous Gold

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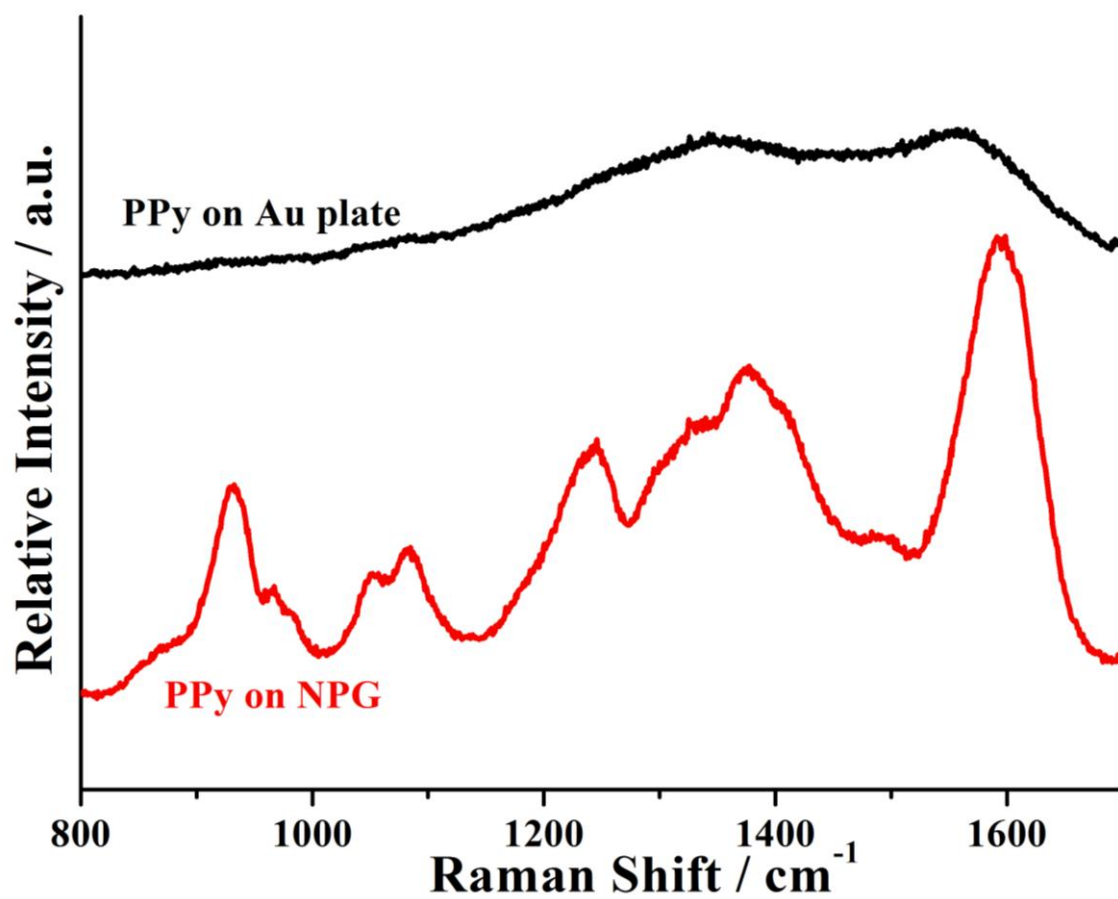


Fig. S1. Raman spectra of PPy electropolymerized on NPG and Au plate, respectively. Excitation laser at 632.8 nm and accumulation time is 10 s. Region between 800 and 1700 cm⁻¹.

Table S1. Corresponding Raman peaks at different applied potential of the as-prepared PPy-NPG.

Potential (V)	Wavenumbers (cm ⁻¹)					
Blank	933	973	1051	1085	1581	1607
Open	933	972	1050	1084	1581	1605
0	933	972	1051	1085	1581	1605
0.25	932	970	1052	1086	1583	1603
0.50	932	970	1052	1088	1584	1608
0.75	932	971	1054	1089	1588	1611
r0.50	933	973	1052	1086	1588	1614
r0.25	933	972	1051	1084	1587	1615
r0	933	972	1050	1081	1587	1615
Finish	933	973	1050	1082	1587	1616

*Blank refers to the sample of *ex-situ* Raman, namely the sample which detect in air without any electrolyte. Open refers to the sample has already put in the electrolyte and the electrochemical device has been connected to the electrochemical work station. The letter “r” before the number indicates the chosen potential is at the process that the potential goes reversed position which is from 0.75 V to 0 V. And the finish shows the sample without any electrolyte after CV curve measurement.

Table S2. Corresponding Raman peaks at different applied potential of 5000-cycled PPy-NPG.

Potential (V)	Wavenumbers (cm ⁻¹)					
Blank	941	987	1053	1070	1591	1626
Open	941	986	1053	1067	1590	1625
0	942	987	1054	1071	1592	1625
0.25	940	987	1053	1069	1592	1625
0.50	938	987	1054	1068	1594	1626
0.75	936	986	1060	1069	1595	1626
r0.50	937	984	1057	1068	1594	1625
r0.25	938	984	1056	1069	1593	1625
r0	939	985	1053	1069	1591	1624
Finish	940	988	1054	1070	1590	1624

*Blank refers to the sample of *ex-situ* Raman, namely the sample which detect in air without any electrolyte. Open refers to the sample has already put in the electrolyte and the electrochemical device has been connected to the electrochemical work station. The letter “r” before the number indicates the chosen potential is at the process that the potential goes reversed position which is from 0.75 V to 0 V. And the finish shows the sample without any electrolyte after CV curve measurement.