Electronic Supplementary Material (ESI) for Nanoscale Advances.

Supplementary information

Electrical response of organic molecule supported *preformed and in-situ formed* antimony sulfide nanoparticles under frequency domain

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Figure: S1

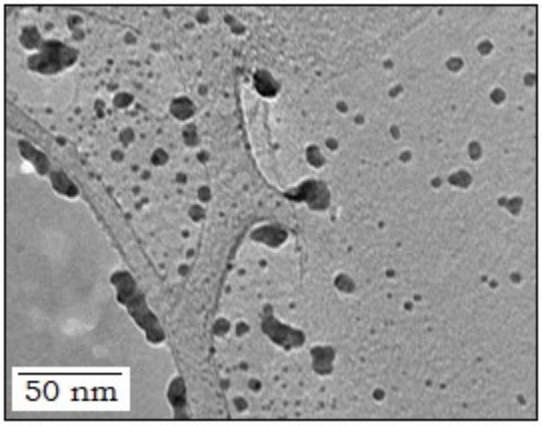

Figure S1: Formation of antimony sulfide nanoparticles after the addition of sodium sulfide to the antimony-aniline complex, film form (sample was collected at the end of the experiment).

Figure: S2

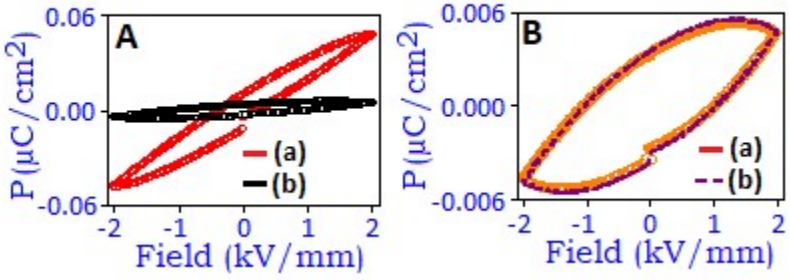

Figure S2: (A) Comparative of polarization hysteresis pattern of preformed antimony sulfide nanoparticles (a) and antinomy-aniline complex (b) at 10 Hz. (B) Polarization hysteresis of antinomy-aniline complex (a) and antinomy-aniline complex in presence of methanol (b).

Figure: S3

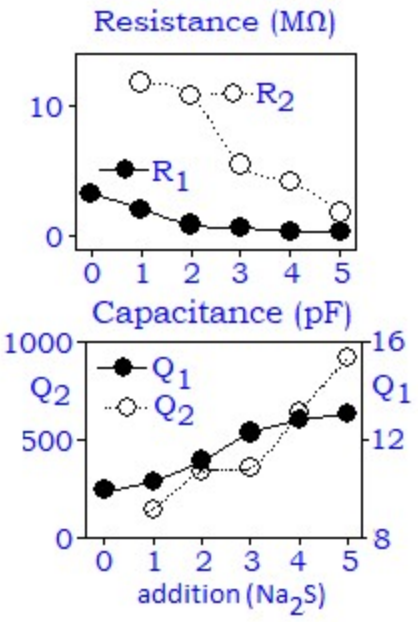

Figure S3: Variation of the resistance (R_2 and R_2) and capacitance ($Q_1$and Q_2) components of *in-situ* formed antimonysulfide with respect to the additionof Na_2S.

Table S1: Fitting parameters extracted from the equivalent circuit model.

Addition (Na_2S)	R_1 (Ω)	Q_1(pF.$s^{\alpha-1}$)	α_1	R_2 (Ω)	Q_2 (pF.$s^{\alpha-1}$)	α_2	W_d(Ω)
0	3.6×10^6	10.20	0.92	-	-	-	-
1	2.12×10^6	10.26	0.96	11.78×10^6	143.2	0.83	14.5×10^6
2	0.91×10^6	11.13	0.96	10.79×10^6	334.1	0.61	13.1×10^6
3	0.67×10^6	12.30	0.97	5.51×10^6	357.5	0.62	11.7×10^6
4	0.42×10^6	12.80	0.97	4.21×10^6	638.2	0.58	4.65×10^6
5	0.37×10^6	13.10	0.96	1.85×10^6	921.1	0.57	1.06×10^6