SUPPLEMENTARY INFORMATION

Green dodecylamine capped hafnium oxide nanosystem: evaluating toxicity profiling and electrochemical hydrogen sulfide sensing efficiency

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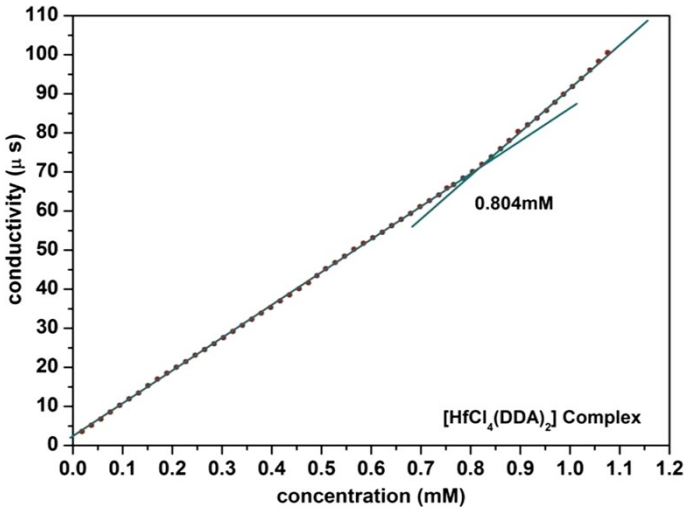

Fig. S1. Calculation of CMC of $[HfCl_4(DDA)_2]$ complex via conductivity studies in aqueous medium.

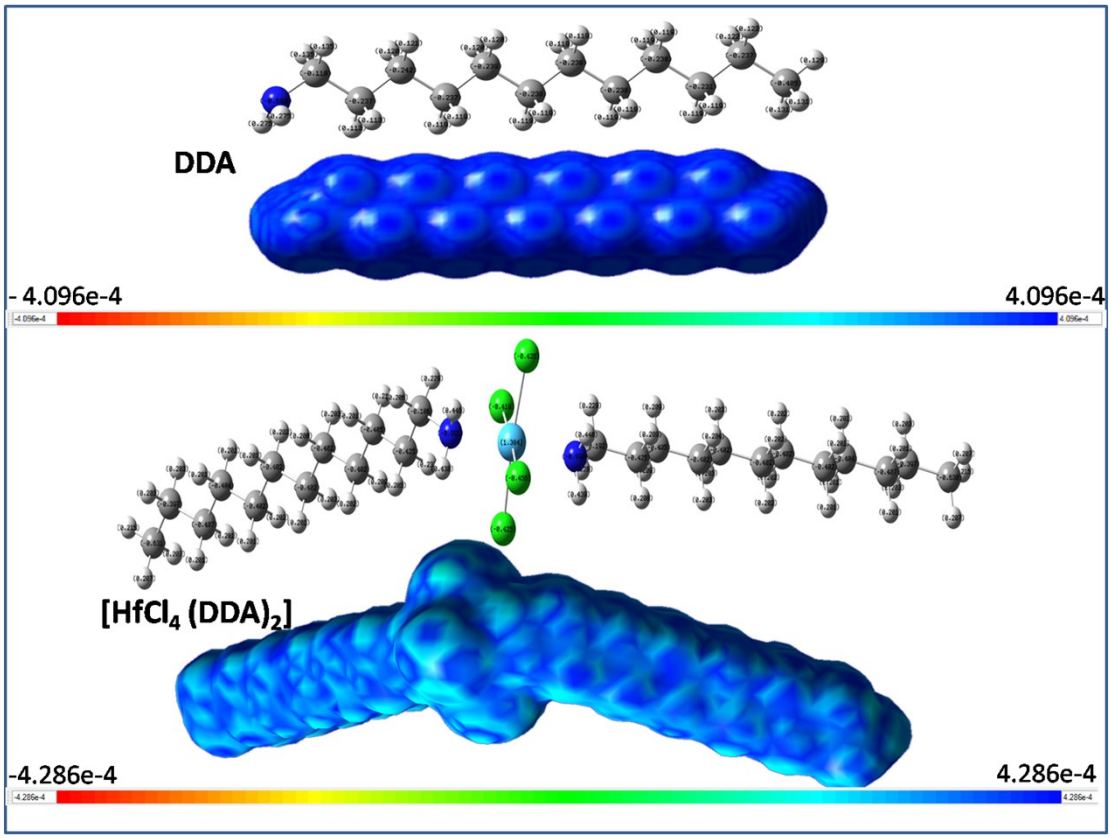

Fig. S2. Mulliken Charges and total electron density isoplots predictiong about the interaction of DDA with $HfCl_4$ and feasibility of $[HfCl_4(DDA)_2]$ complex.

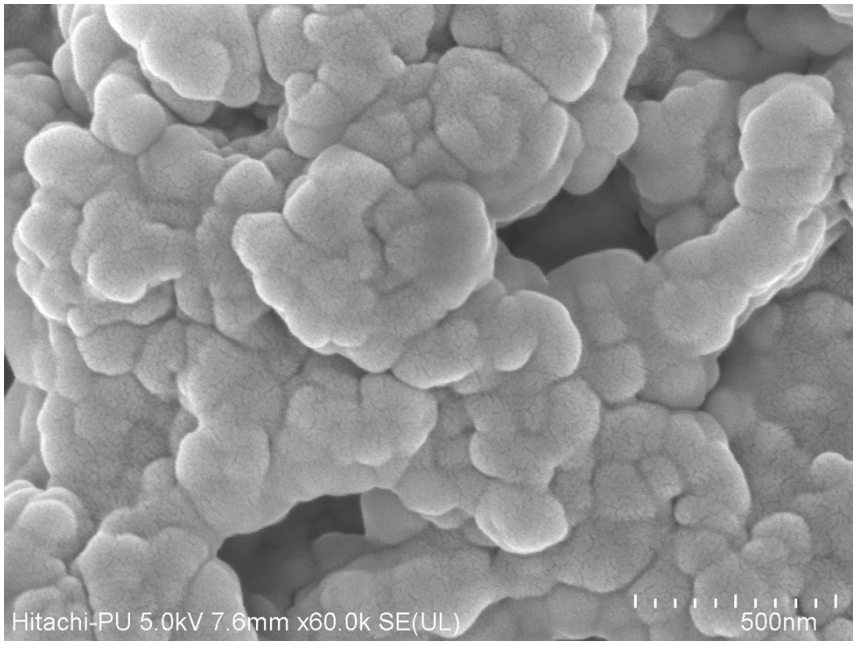

Fig. S3. FESEM image of agglomerated bare HfO_2 Nanoparticles.

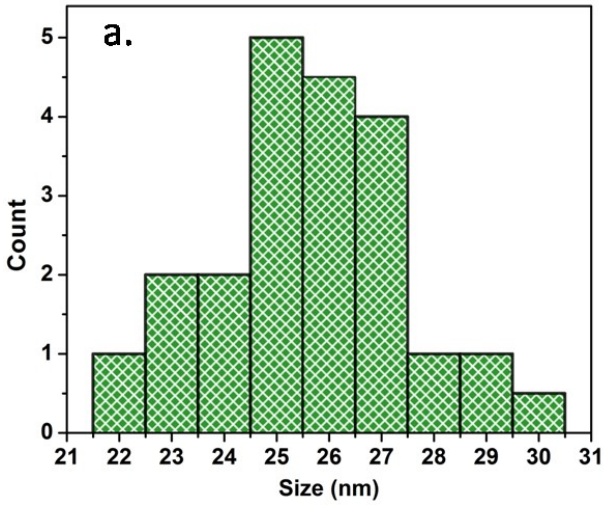

Fig. S4. (a.) Average Size (20-30 nm) estimation

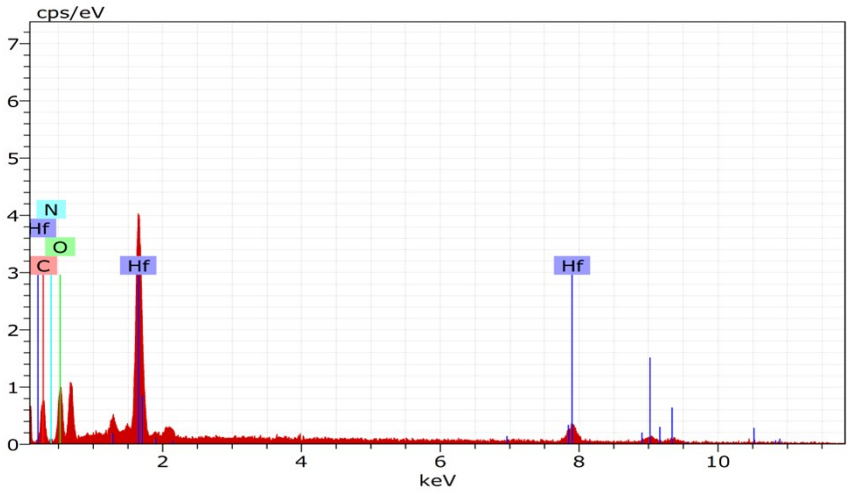

Fig. S5. EDS spectra of DDA@HfO_2 NM.

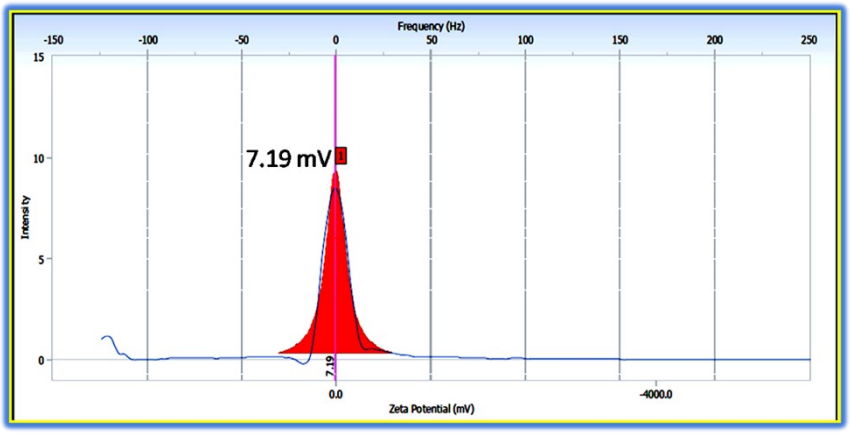

Fig. S6. Zeta potential of DDA@HfO_2 NM.

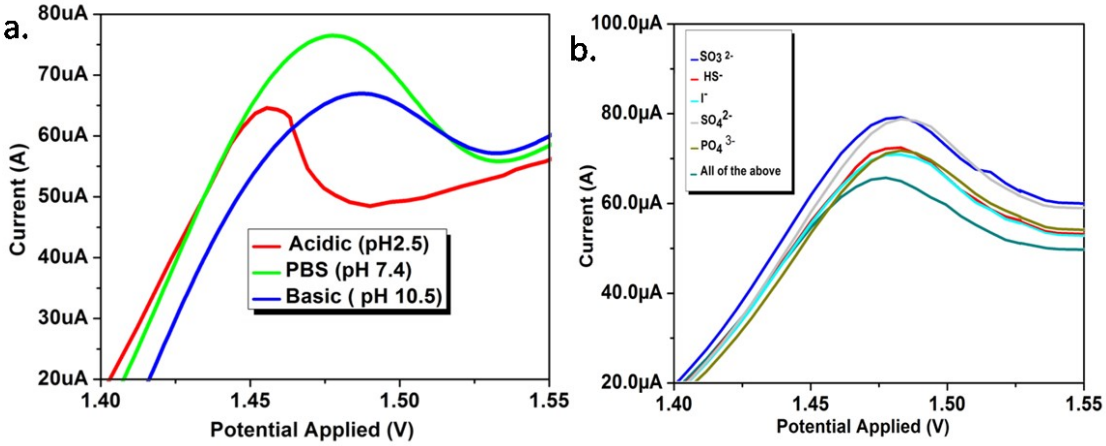

Fig. S7. **(a.)** current response with varied pH(10 μM), **(b.)** Interference studies (SO_3^{2-}, HS^-, I^-, SO_4^{2-}, PO_4^{3-}).

Table S1. Recovery (%) of HS^- in real samples by DDA@HfO_2/Au nanosystem

Added Na_2S (uM)	Recovered (uM)	Recovery (%)	RSD
Tap Water			
10	9.2	92	
40	38.2	95.5	5.2
80	78.6	98	
Rain Water			
10	9.5	95	
40	38.6	96.5	
80	78.4	98	4.8
Hand pump			
10	9.0	96	
40	38.5	96.25	4.2
80	76.8	96	