Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary Information

Formation of PbO hexagonal nanosheets and their conversion into luminescent inorganic-organic hybrid nanosheets: Growth and mechanism

Suman Shakya and G. Vijaya Prakash*

Nanophotonics Lab, Dept of Physics, Indian Institute of Technology Delhi, New Delhi 110016, India

*Tel.: +91 11 26591326, email: prakash@physics.iitd.ac.in

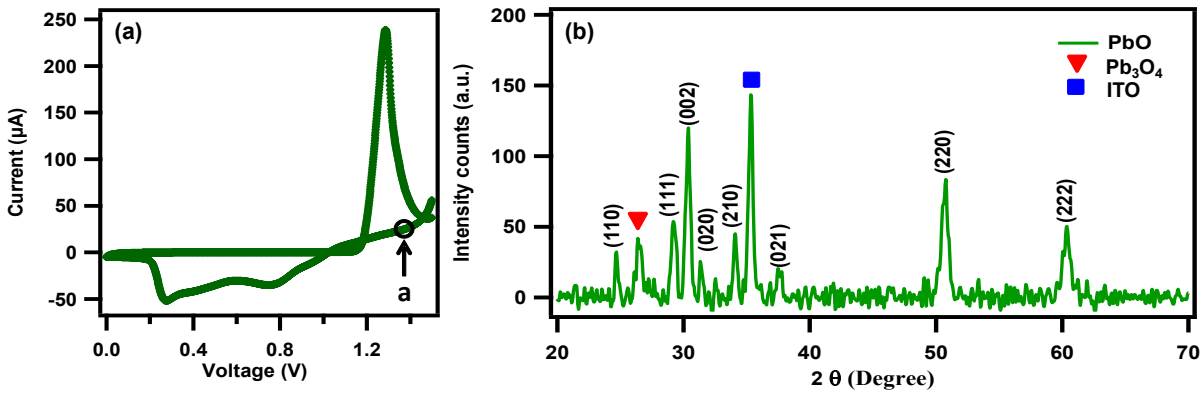

Fig.S1*(a) Cyclic voltammogram of electrolytic bath containing lead acetate and sodium acetate, and (b) XRD pattern obtained for as-deposited PbO on ITO substrate.*

Table. S1*: EDX result of elemental composition percentage in the nanosheet (Fig 5).*

Element	Weight %	Compound %	Formula
Oxygen (O)	7.168	100.00	PbO
Lead (Pb)	92.832		

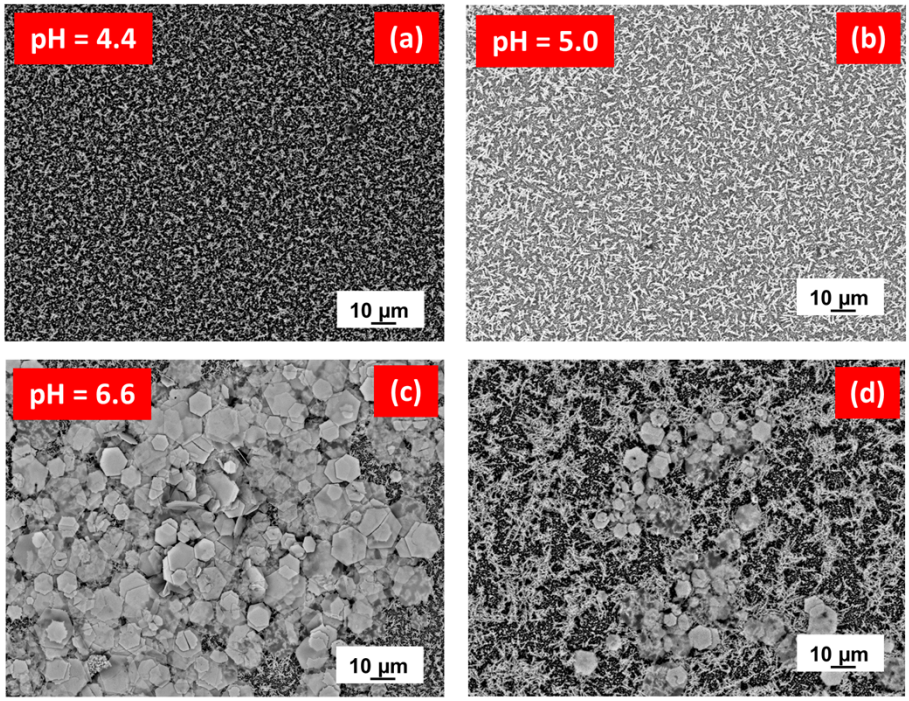

Fig.S2 *(a), (b) & (c) shows the effect of pH of the electrolytic bath for the value of 4.4, 5.0 and 6.6 respectively, which confirmed the formation of hexagonal nanosheets in less acidic medium, (d) shows the lesser formation of hexagonal nanosheets as an effect of higher lead acetate concentration (0.5 M) in the electrolytic solution,*

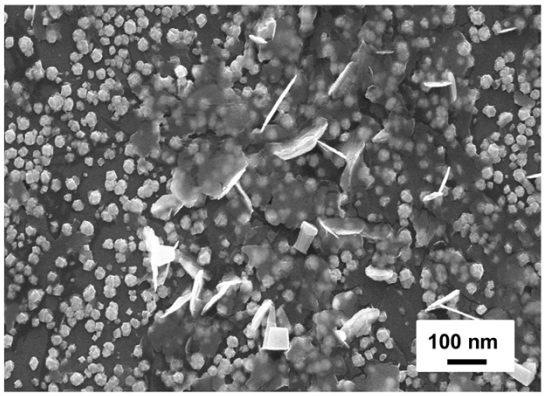

Fig.S3 *SEM image shows the secondary nucleation of nanosheets from the background nanoparticles at the deposition potential of 1.2 V after 5 minutes of deposition. Concentration of electrolyte = 0.002 M* $Pb(CH_3COO)_2$ *+ 0.1 M* CH_3COONa *; pH= 6.6 .*

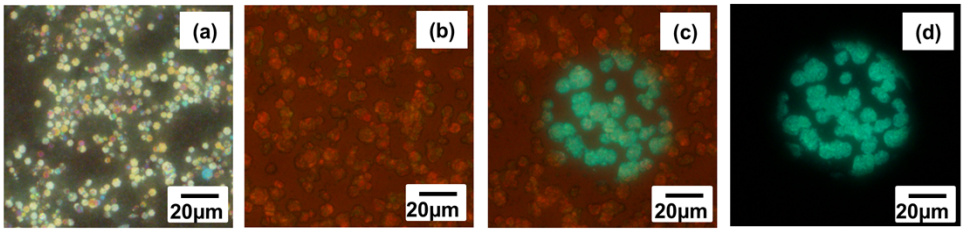

Fig. S4 *(a) Shows the confocal microscopic white light of PbO hexagonal nanosheets, (b-d) shows the white light image, white light + photoluminescence image and photoluminescence image of CHPI nanosheets, respectively.*