

Self-Assembly of random networks of zirconium-doped manganese oxide nanoribbons and poly(3,4-ethylenedioxythiophene) flakes at water/chloroform interface

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Oxidation potential of EDOT in V (vs. Ag/AgCl)	Reduction potential of EDOT in V (vs. Ag/AgCl)	Standard reduction potential of EDOT in V (E_P° vs. SHE)
1.00 ¹	-1.00	-1.197 ²

Table S1. Oxidation and reduction potentials of EDOT with reference to various reference electrodes.

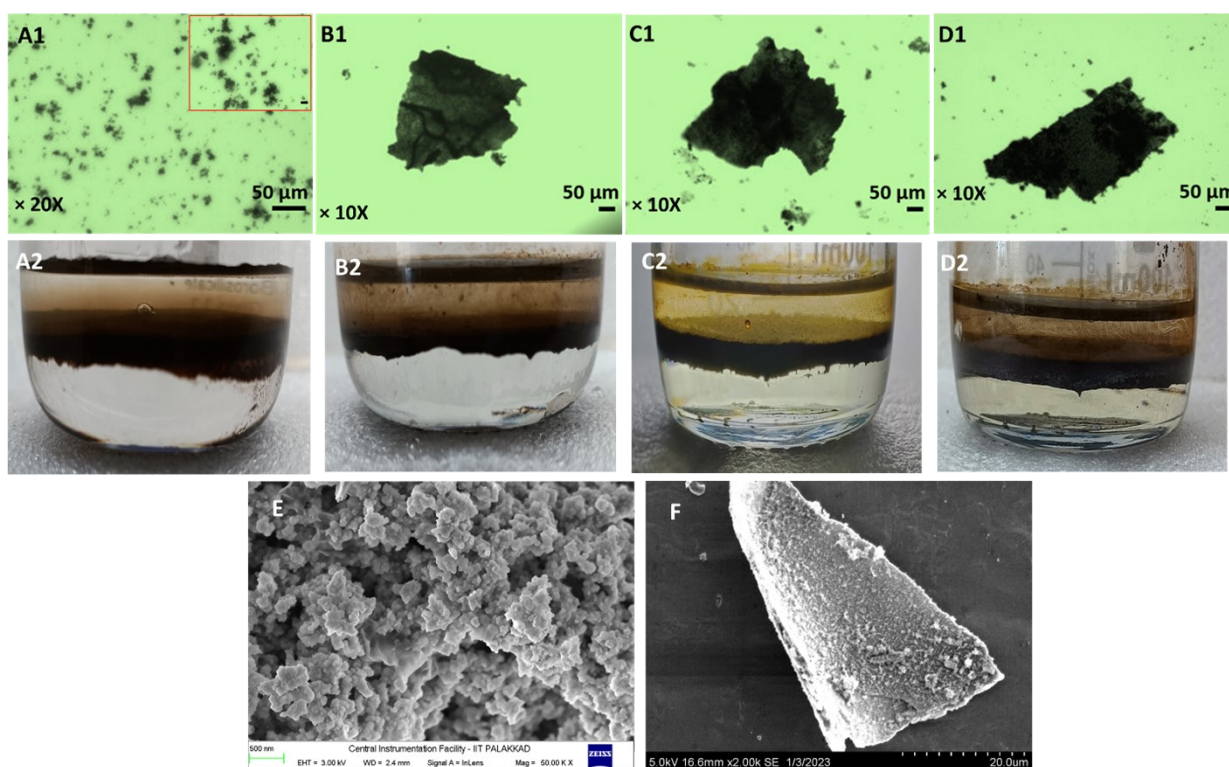


Fig. S1 (A-D) Optical images and photographic images of PK 50, PZrK 5, PZrK RT, and PZrK 50. FESEM image of (E) PK 50 and (F) PZrK 5.

The inset of Fig. S1.A1 shows the agglomerated growth of PK 50 while PZrK 5, PZrK RT, and PZrK 50 have a micrometer sized-film like morphology. The observance of clear solvent phases (upper water and lower chloroform), separated by the products confined at the water/chloroform interface, confirms the completion of polymerization. The SEM image of PK 50 in Fig. S1E shows agglomerates of PEDOT/Zr-K-OMS-2 whereas PZrK 5 (Fig. S1F) shows a microscale-film type morphology.

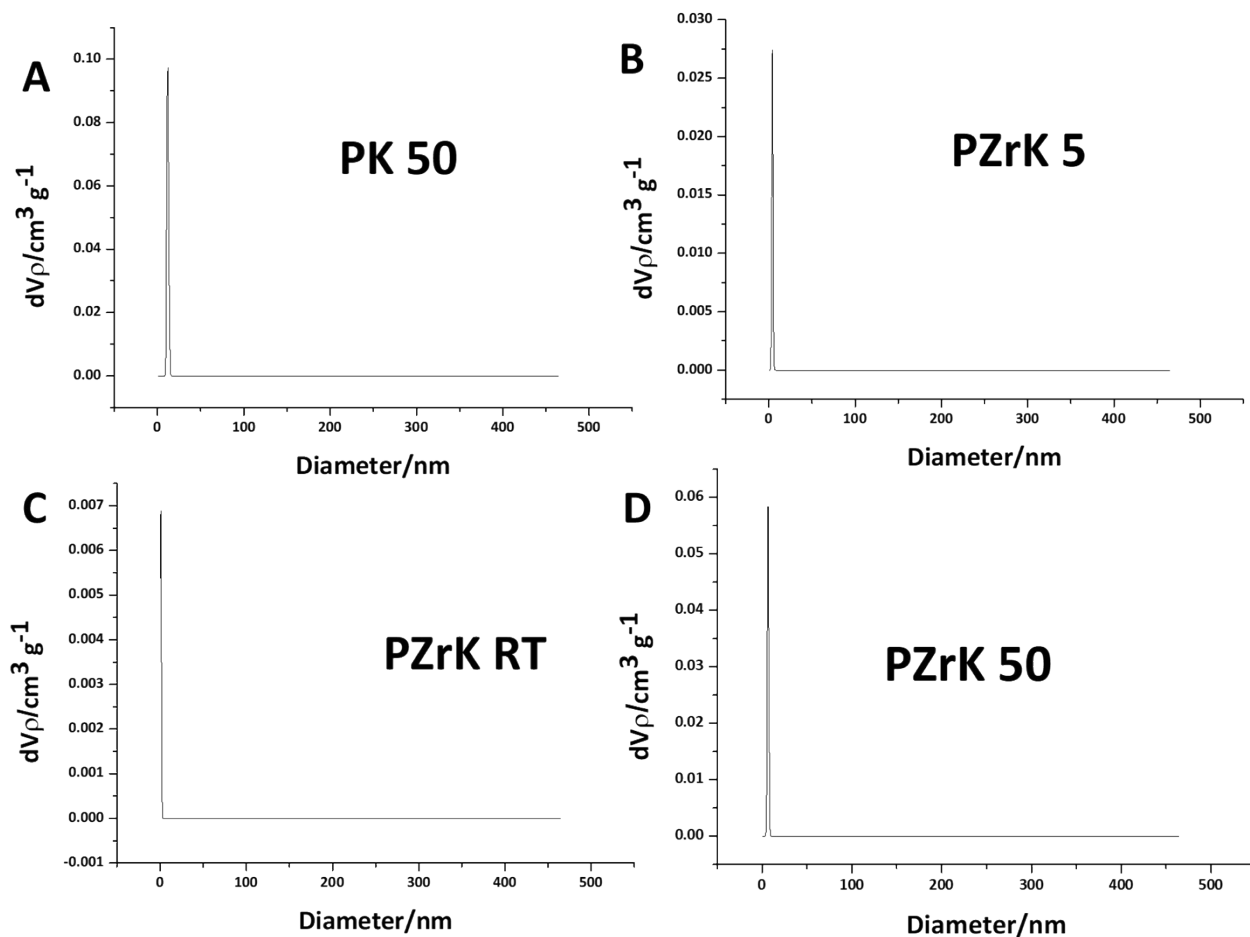


Fig. S2 Pore size distribution plots of (A) PK 50, (B) PZrK 5, (C) PZrK RT, and (D) PZrK 50

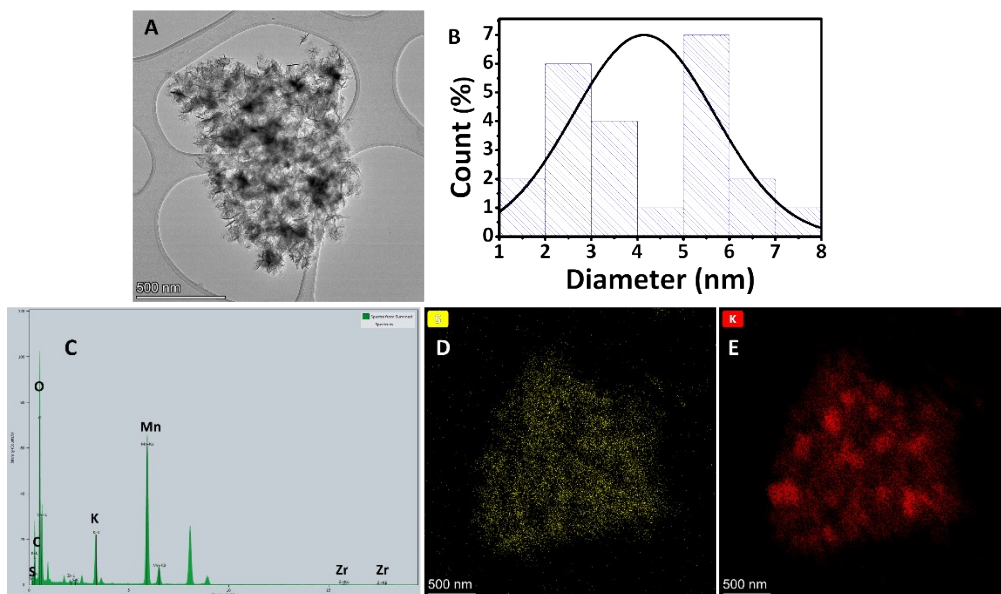


Fig. S3 (A) Low-magnification HRTEM image of PZrK 5. (B) Histogram profile showing the nanoribbon diameter distribution of PZrK 5. (C) HRTEM-EDS spectrum of PZrK 5. Elemental mapping image of (D) sulphur and (E) potassium in PZrK 5.

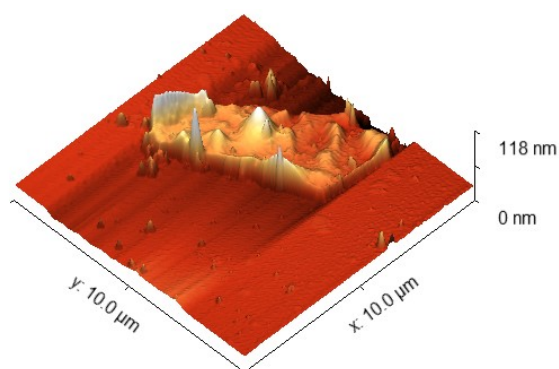


Fig. S4 3-D AFM image of microscale PZrK 5 film.

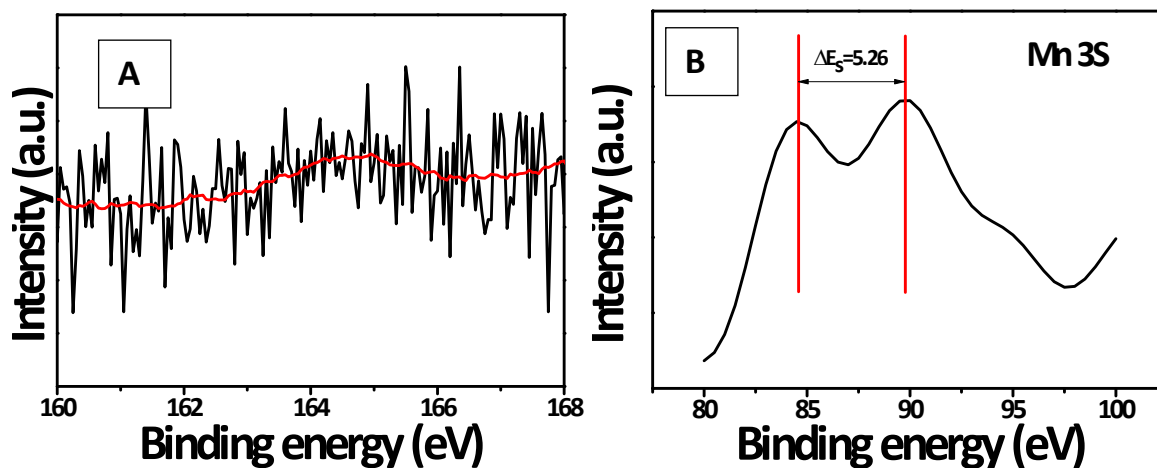


Fig. S5 High-resolution (A) S 2p spectrum and (B) Mn 3s spectrum of PZrK 5

References

- 1 V. S. Vasantha, R. Thangamuthu and S. M. Chen, *Electroanalysis*, 2008, 20, 1754–1759.
- 2 L. R. F. Allen J. Bard, *Electrochemical Methods: Fundamentals and Applications* - Allen J. Bard, Larry R. Faulkner, Henry S. White - Google Books, 2000.