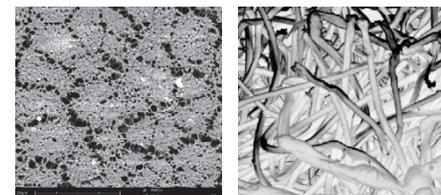


# Matrix supported tailored polymers for solid phase extraction of fluoride from variety of aqueous streams



## ❖ Synthesis of tailored sheet polymer by UV-irradiation :

- Grafting of polypropylene fibrous and sheet with poly [bis (2-methacryloyloxy)-ethyl]phosphate
- Selective fluoride sorption by forming thorium complex with the phosphate groups.

## Optimised parameters for the selective extraction of fluoride

- ✓ pH for maximum uptake: 2-7
- ✓ Quantitative desorption by 0.1 M NaOH.
- ✓ No leaching of Th from sorbent- Confirmed by ICPMS
- ✓ No interference from common anions.
- ✓ Sorbent tested for affected ground water sample

- ✓ Highest fluoride loading capacity for microporous sheet ( $4320 \text{ mg kg}^{-1}$ ) reported till date in literature.
- ✓ No leaching of the loaded thorium from the sorbent.
- ✓ Easy handling of membrane.

