



Highlighting research from the group of Prof. Pranab Kumar Mondal of the Microfluidics and Microscale Transport Processes Laboratory, Department of Mechanical Engineering, IIT Guwahati, India, and Prof. Somchai Wongwises, Faculty of Engineering, KMUTT Bangkok, Thailand.

Ion-partitioning effect promotes the electroosmotic mixing of non-Newtonian fluids in soft-patterned microchannels

The mixing and neutral species dispersion characteristics of non-Newtonian fluids are numerically investigated in a micromixer by considering the ion-partitioning effect with an integrated patterned soft polyelectrolyte layer (PEL). We found that greater vortex strength at lower permittivity ratios results in better efficiency and faster neutral species dispersion owing to the ion-partitioning effect.

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See Pranab Kumar Mondal *et al.*, *Phys. Chem. Chem. Phys.*, 2025, **27**, 19662.