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Migration and alignment in the flow of elongated particle suspensions through a converging-diverging channel

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Highlights

- Model that describes flow of non-spherical particles considering particle migration and orientation.
- Results show effect of flow kinematics on particle distribution and orientation.
- Flow contraction accelerates particles migration towards the zero-shear rate region near the symmetry plane.
- Particles tend align to the flow direction in converging flows dominated by uniaxial extension and perpendicular to the flow direction in diverging flows dominated by biaxial extension.

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