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Startup electroosmotic flow of a viscoelastic fluid characterized by Oldroyd-B model in a rectangular microchannel with symmetric and asymmetric wall zeta potentials

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Highlights

- Transient electroosmotic flow of a viscoelastic fluid in a rectangular microchannel
- Rheology of viscoelastic fluid is described by Oldroyd-B fluid model
- Complex nature of the fluid leads to enhancement of flowrates for symmetric zeta potentials
- Complex velocity profiles are observed for asymmetric zeta potentials

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