## Electronic Supplementary Information Flow-driven crystal growth of lithium phosphate in microchannel

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## Growth rate of polycrystalline aggregates

Along the contact line nucleation occurs at random distance from the injection site due to its stochastic nature, the growth of the individual particles (see Fig. S1) are, however, robust showing identical behaviour at various flow rates as shown in Fig. S2.

## Microstructure of polycrystalline particles

The spherical polycrystalline particles have spherulite structure for both well-mixed and the flowdriven system (see Fig. S3). In the latter rod-like crystallites appear larger even for R = 3 where growth is hindered due to multiple nucleation sites.



Figure S1: Time evolution of polycrystalline aggregates of lithium phosphate as observed under the microscope at flow rates of 1, 1.5, 2, 2.5, 3, 3.5  $\mu$ L/min (a-f), respectively. Symbols of  $d_y$  and  $d_x$  indicate the particle diameters along the directions; the black bar represents 50  $\mu$ m.



Figure S2: Precipitate particle growth profiles along (left) and transverse to (right) the reactant flow for flow rates of 1.5, 3.0, and 4.0  $\mu$ L/min (a, b, c,) respectively. Particles are 254–919  $\mu$ m from the inlet.



Figure S3: SEM images of precipitate particles from the microchannel at R = 6 (a), R = 3 (b), and from a well-stirred reactor at R = 3 (c).