two flows of 100 mL min^{-1} for two injection points and so on (Figure 2.11). The solubility of flufenamic acid, and the nucleation and growth rate equations are described by

$$c(\text{mg mL}^{-1}) = 336.0\exp(-0.108(\text{volume \% antisolvent}))$$

$$G = k_g(c - c_s)^g$$

$$\text{B} = k_b(c - c_s)^b \tag{2.41}$$

The experimentally determined kinetic parameters are shown in Table 2.8.

The crystallization process was simulated at steady-state. It has been shown that GRD is necessary to explain the observed broadening of the product CSD. In such case, the PBE in eqn (2.39) becomes:

$$\frac{\partial}{\partial L}(Gn) + \frac{\partial}{\partial x}(un) = D_G\frac{\partial^2}{\partial L^2}(n) \tag{2.42}$$

In dimensionless form, the above equation can be written as.

Table 2.8 Estimated nucleation and crystal growth kinetic parameters and 95% confidence intervals for flufenamic acid at different number of antisolvent addition points.[22]

# Addition points	$k_g(\times 10^{-7}\text{m s}^{-1})$	g	$k_b(\times 10^{8}\#\text{ m}^{-3}\text{s}^{-1})$	b
1	8.2 ± 0.64	1.1 ± 0.12	1.5 ± 0.12	2.0 ± 0.13
2	9.8 ± 40	1.0 ± 0.02	1.4 ± 0.11	2.0 ± 0.09
3	9.8 ± 1.01	1.1 ± 0.08	1.3 ± 0.15	2.1 ± 0.14
4	9.9 ± 0.58	1.1 ± 0.08	1.3 ± 0.08	2.1 ± 0.09

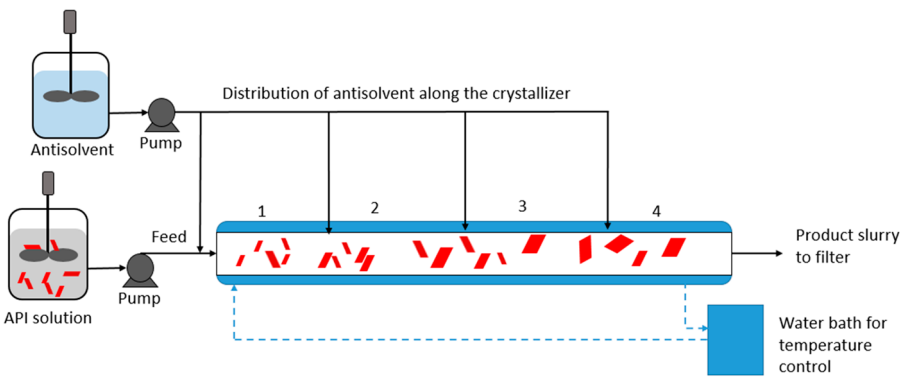

Figure 2.11 Schematic diagram of the PFC with multiple antisolvent addition points.