**Ionic liquid stationary phase coating study for semi-packed microfabricated columns**

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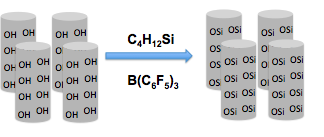


Figure S1. Schematic of chemical fast salinization deactivation method.

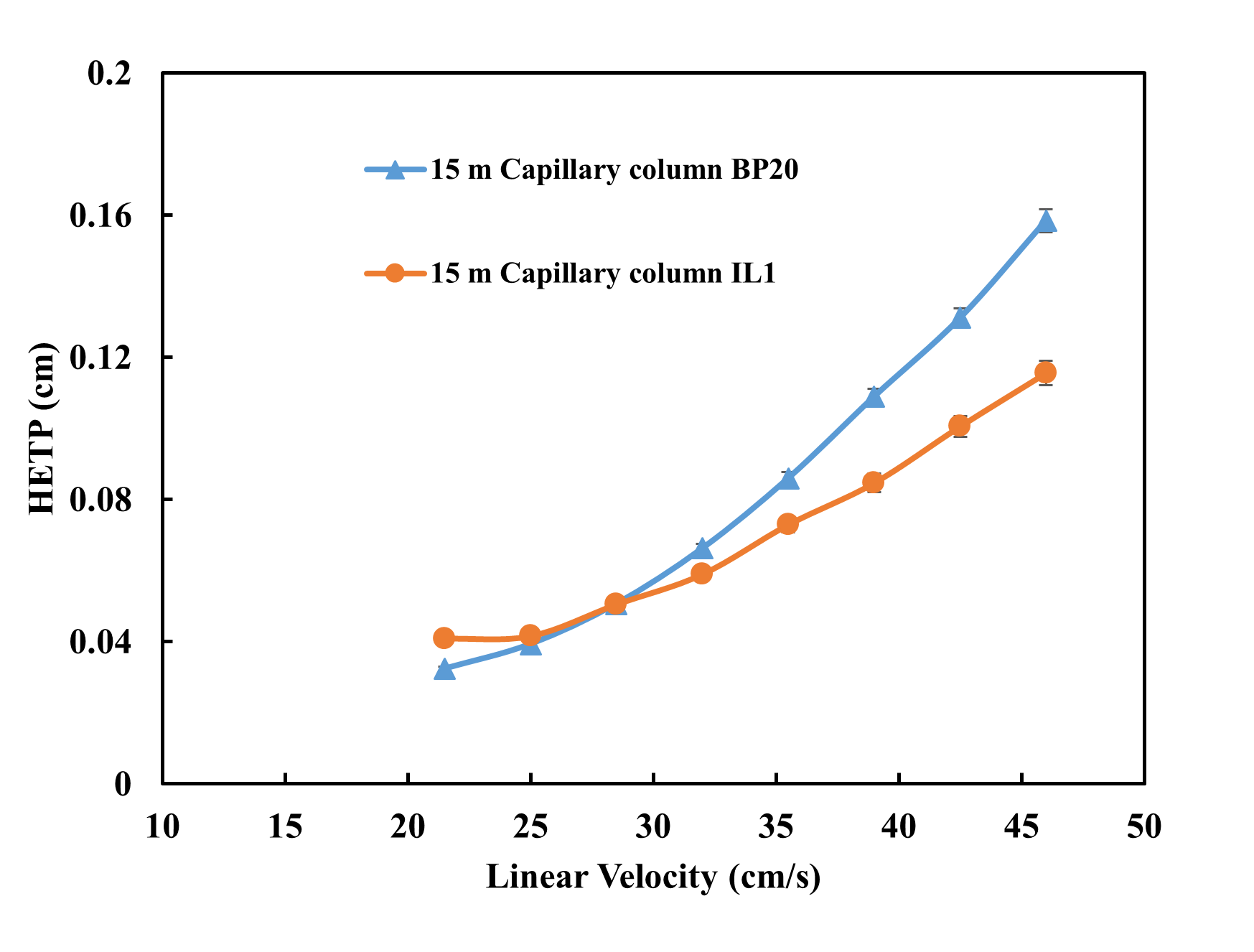


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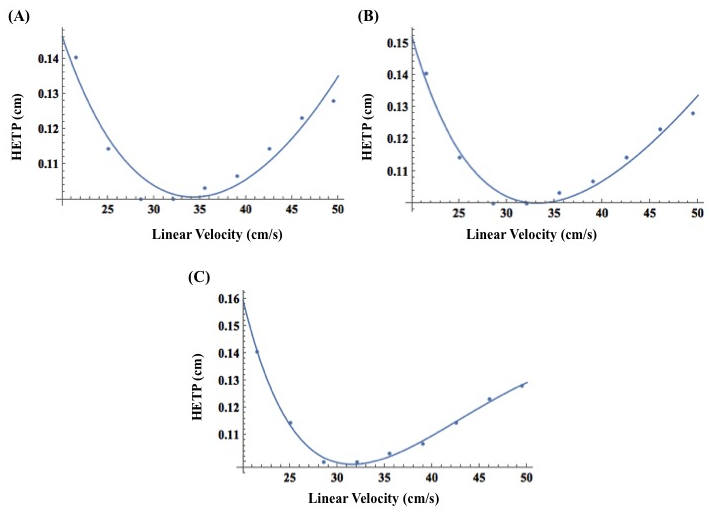


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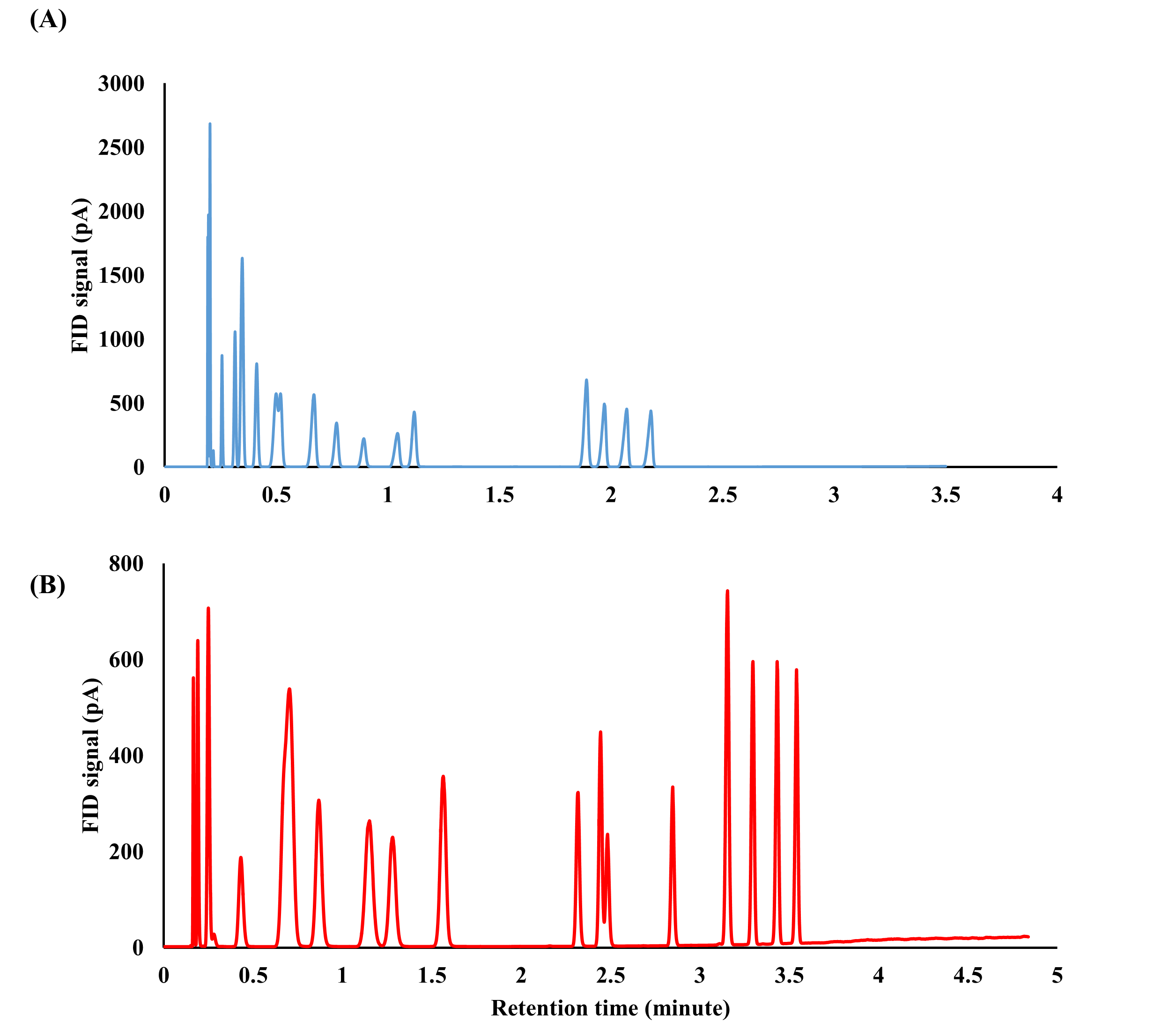


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Table S1. Resolution and symmetry of Capillary columns at carrier gas pressure of 45 psi (symmetry was reported based on UPS tailing at 5% height of the peak).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Component | Resolution Capillary IL1 | Tailing Capillary IL1 | Resolution Capillary  BP20 | Tailing Capillary BP20 |
| 2-nitrotoluene | 2.27 | 0.79 | 4.48 | 0.96 |
| 3-nitrotoluene | 2.74 | 0.73 | 4.50 | 0.96 |
| 4-nitrotoluene | 2.91 | 0.75 | 3.66 | 1.00 |

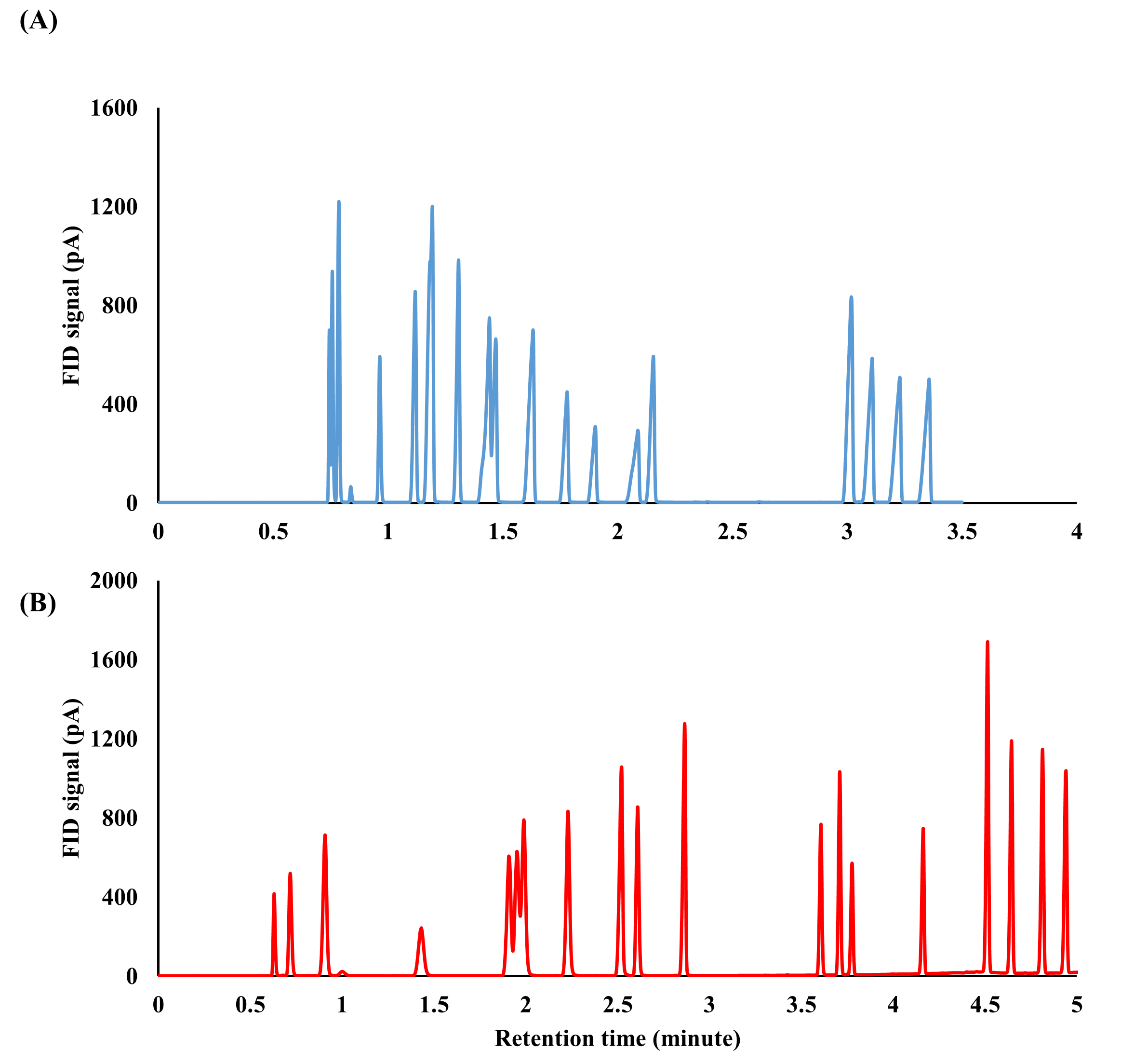


Figure S7. Chromatograms showing the separation of the 20 components mixture using (A) Capillary column with 15 m length and 0.25 mm thickness coated with IL1 with thermal treatment at 240 °C and (B) commercial Restek capillary column with 15 m length and 0.25 mm thickened coated with BP20 as the stationary phase. Condition: injection volume 0.1 μL, split ratio 100:1, inlet carrier gas pressure 10 psi, initial oven temperature 30 °C held for 0.5 min; ramp rate 40 °C/min to 200 °C.

Table S2. Resolution and symmetry of Capillary columns at carrier gas pressure of 10 psi (symmetry was reported based on UPS tailing at 5% height of the peak).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Component | Resolution Capillary IL1 | Tailing Capillary IL1 | Resolution Capillary  BP20 | Tailing Capillary BP20 |
| 2-nitrotoluene | 2.24 | 0.66 | 5.30 | 0.85 |
| 3-nitrotoluene | 2.76 | 0.61 | 6.70 | 0.84 |
| 4-nitrotoluene | 2.83 | 0.61 | 4.89 | 0.82 |

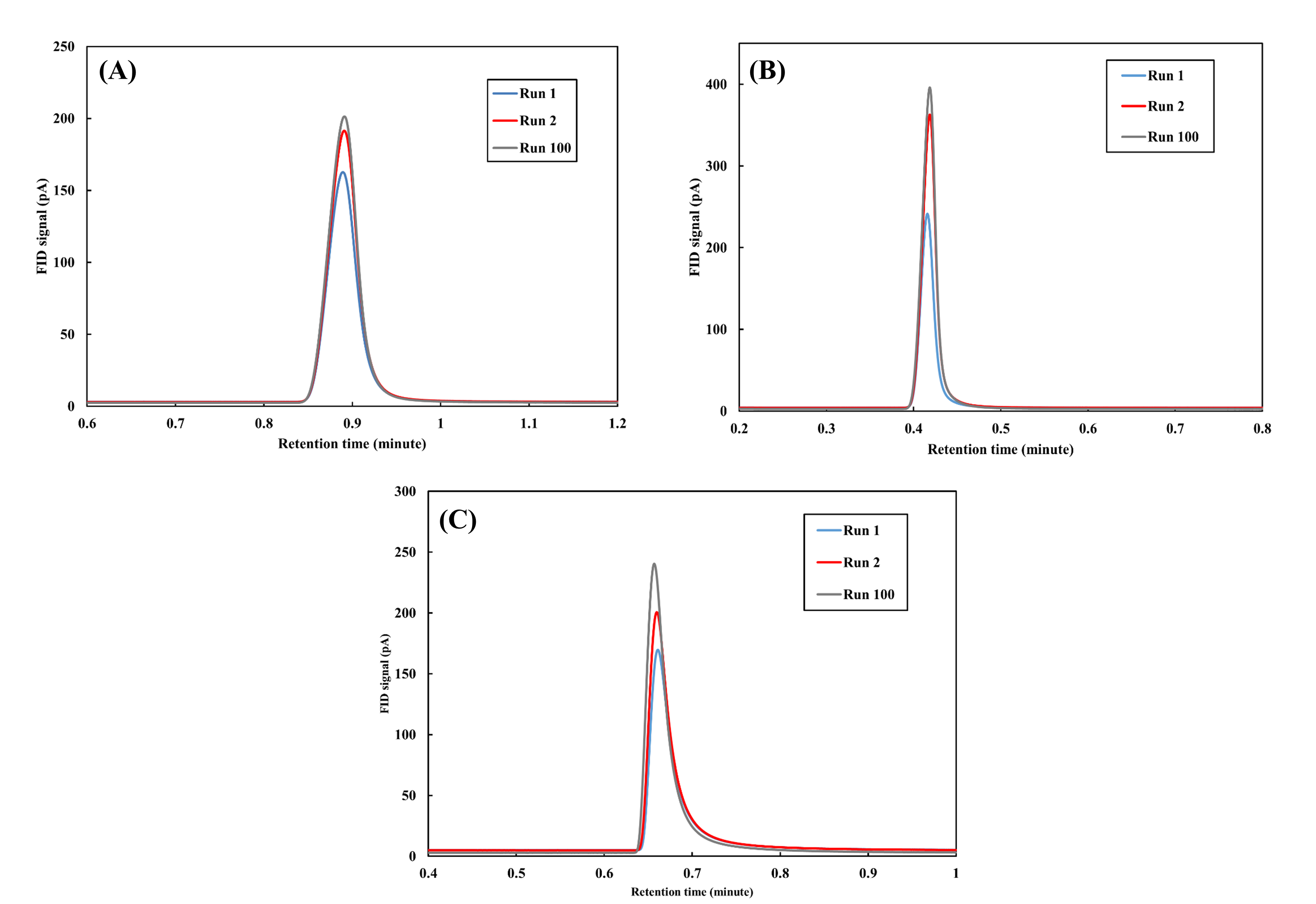


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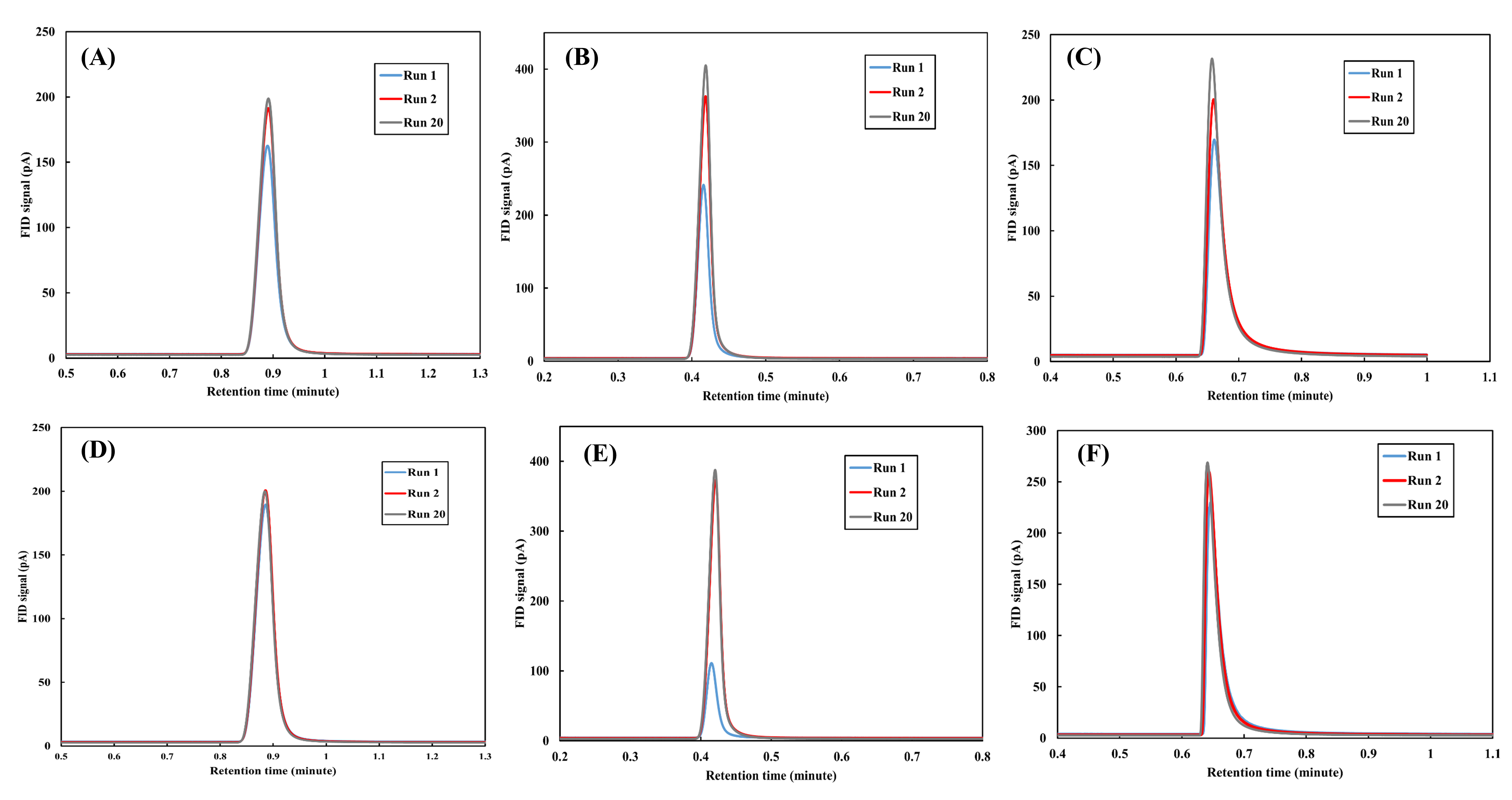


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