Supplementary material.

Quantitative assessment of required separator fluid volume in multi-infusion settings

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Supplementary Figure S1. Concentration courses of Methylene blue (MB) and eosin yellow (EY) and the corresponding administration profile of profile $2\cdot$MB$_2$-$\text{NS}_5$ $\text{EY}_2$ $\text{NS}_9$. The corresponding administration profile is presented below the concentration course. Normal saline (NaCl 0.9%; NS) was used as separator fluid.
Supplementary Figure S2. Concentration courses of Methylene blue (MB) and eosin yellow (EY) and the corresponding administration profile of profile 4-MB₄-NS₅-EY₄-NS₉. The corresponding administration profile is presented below the concentration course. Normal saline (NaCl 0.9%; NS) was used as separator fluid.
Supplementary Figure S3. Concentration courses of Methylene blue (MB) and eosin yellow (EY) and the corresponding administration profile of profile $2\cdot$NS$_2$•MB$_{0.5}$ NS$_5$ EY$_{0.5}$ NS$_9$. The corresponding administration profile is presented below the concentration course. Normal saline (NaCl 0.9%; NS) was used as separator fluid.
**Supplementary Figure S4.** Concentration courses of Methylene blue (MB) and eosin yellow (EY) and the corresponding administration profile of profile 2-NS₂-MB₁ NS₅ EY₁ NS₉. The corresponding administration profile is presented below the concentration course. Normal saline (NaCl 0.9%; NS) was used as separator fluid.
Supplementary Figure S5. Concentration courses of Methylene blue (MB) and eosin yellow (EY) and the corresponding administration profile of profile 4-NS4-MB1 NS5 EY1 NS9. The corresponding administration profile is presented below the concentration course. Normal saline (NaCl 0.9%; NS) was used as separator fluid.
Supplementary Figure S6. Concentration courses of Methylene blue (MB) and eosin yellow (EY) and the corresponding administration profile of profile 4-NS₄-MB₂ NS₅ EY₂ NS₉. The corresponding administration profile is presented below the concentration course. Normal saline (NaCl 0.9%; NS) was used as separator fluid.
Supplementary Figure S7. Concentration curves at minor, medium and major diffusion levels. The dotted red line indicates the 2% cut-off concentration of the dye.

| Diffusion level | Flow | Concentration curve |
|----------------|------|---------------------|
| minor          | ![minor flow](image) | ![minor concentration curve](image) |
| medium         | ![medium flow](image) | ![medium concentration curve](image) |
| major          | ![major flow](image)  | ![major concentration curve](image)  |
Supplementary Table S8. Timespans in which methylene blue and eosin yellow were present in the tubing.

| Profile                  | Contact time MB (min) ± SD | Volume MB administered (mL) | Contact time EY (min) ± SD | Volume EY administered (mL) |
|--------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|
| 2-MB₂-NS₉ EY₂ NS₉        | 5.43 ± 0.19                | 2.52                       | 6.07 ± 0.19                | 2.0                         |
| 2-NS₂-MB₁ NS₅ EY₁ NS₉    | 3.92 ± 0.07                | 0.5                        | 4.68 ± 0.43                | 0.5                         |
| 2-NS₂-MB₁ NS₅ EY₁ NS₉    | 4.66 ± 0.32                | 1.0                        | 5.14 ± 0.22                | 1.0                         |
| 4-MB₁-NS₅ EY₄ NS₉        | 7.25 ± 0.33                | 4.52                       | 6.84 ± 0.20                | 4.0                         |
| 4-NS₄-MB₁ NS₅ EY₁ NS₉    | 5.02 ± 0.15                | 1.0                        | 6.80 ± 0.08                | 1.0                         |
| 4-NS₄-MB₂ NS₅ EY₂ NS₉    | 5.41 ± 0.21                | 2.0                        | 6.64 ± 0.25                | 2.0                         |

SD: standard deviation, EY: eosin yellow, MB: methylene blue, NS: normal saline, min: minutes.

¹Timespan with a measured dye concentration >2%