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Supplementary Material: Video Captions

Droplet manipulation
A double emulsion droplet containing colorless $[bmim]_2MnCl_4$as MIL and cyclohexane as organic phase is manipulated by a magnet.

Capture and release
Double emulsion droplets containing colorless $[bmim]_2MnCl_4$ as MIL are captured and released by a magnet.

Capture, mix and release
A blue colorized (organic phase) double emulsion droplet with colorless $[bmim]_2MnCl_4$ is captured by a magnet. As subsequent flowing second MIL containing droplet with a yellow colorized organic phase (due to the illumination by the microscope light it appears greenish) is also captured. Both organic phases penetrate each other and mix to form a green one. By removing the magnet the now unified green droplet is released.

Double emulsion formation I
Delivery of one small MIL $[bmim]FeCl_4$ droplet into an organic-phase (toluene) outer droplet.

Double emulsion formation II
Delivery of two small MIL $[bmim]_5Dy(SCN)_8$ droplets into an organic-phase (toluene) outer droplet.

Double emulsion formation III
Delivery of six small MIL $[bmim]FeCl_4$ droplets into an organic-phase outer droplet. Droplet sizes and delivery frequency depends on the flow conditions of both, the continuous phase and the slug flow inside the inner capillary.

Shaking
Double emulsion droplet flow along three magnets mounted in a row: the MIL is shaked inside the droplet. Unfortunately, it appears as turning but this is not the case.

Turning
Double emulsion droplet flow along three alternatedly mounted magnets: the droplet is turned and remains in this position as long as it is flowing parallel to a magnet's surface.

Split and recombine
Double emulsion droplet flows along two parallel mounted magnets: entering the magnetic field and turning the MIL phase ($[bmim]Fe_2Cl_7$); stretching the droplet followed by a phase separation. The separated organic phase travels with the continuous phase flow velocity, while the MIL is accelerated in the same direction.

Capture, coalesce and separation
Double emulsion droplet flow through a ring magnet: the first droplet comes in a close vicinity to the magnet's hole entrance. The MIL ($[bmim]_2NiCl_4$) turns first in the opposite flow direction due to the magnetic field. Subsequent unification of a lingering droplet inside of the ring magnet field with a sequential following droplet. Some stretching of the now unified droplet takes place, i.e. the organic phase elongates into the continuous phase flow direction. After three times repeating the growing volume of the organic phase leads to an overstretching and finally rupture of the organic phase. Also the MIL follows the organic phase in a certain distance.