CLAIMS

1. A microfluidization apparatus comprising an interaction chamber, at least one intensifier pump, and a back pressure chamber, wherein the interaction chamber contains a plurality of Z-type geometry channels and wherein the back pressure chamber comprises a plurality of fixed geometry channels and is located downstream of the interaction chamber.

2. The apparatus of any preceding claim, wherein the interaction chamber provides a shear rate in excess of $1 \times 10^{6} s^{-1}$.

3. A method for the manufacture of an oil-in-water emulsion comprising the step of passing a first emulsion having a first average oil droplet size through a microfluidization apparatus as defined in claim 1 or claim 2.