Injection molded pinched flow fractionation device for enrichment of somatic cells in cow milk

In this paper the continuous microfluidic separation technique pinched flow fractionation is applied to the enrichment of somatic cells from cow milk. Somatic cells were separated from the smallest fat particles and proteins thus better imaging and analysis of the cells can be achieved. The enrichment was performed using an all-polymer pinched flow fractionation device fabricated by injection molding. The polymer chips were bonded to a 500 nm polymer foil using UV assisted thermal bonding. The quality of the final devices was reproducible and the injection molding process combined with the use of cheap materials ensures the possibility for device mass production.

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