Miniaturization of a micro-optics array for highly sensitive and parallel detection on an injection moulded lab-on-a-chip - DTU Orbit (04/12/2018)

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A miniaturised array of supercritical angle fluorescence (SAF) micro-optics embedded in a microfluidic chamber was fabricated by injection moulding. The fabricated chip could enhance the fluorescence signal around 46 times compared to a conventional microscope. Collection of the fluorescence signal from the SAF array is almost independent of the numerical aperture, and the limit of detection was improved 36-fold using a simple and inexpensive optical detection system.

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