Optofluidic third order distributed feedback dye laser - DTU Orbit (05/01/2019)

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This letter describes the design and operation of a polymer-based third order distributed feedback (DFB) microfluidic dye laser. The device relies on light confinement in a nanostructured polymer film where an array of nanofluidic channels is filled by capillary action with a liquid dye solution which has a refractive index lower than that of the polymer. In combination with a third order DFB grating, formed by the array of nanofluidic channels, this yields a low threshold for lasing. The laser is straightforward to integrate on lab-on-a-chip microsystems where coherent, tunable light in the visible range is desired. (c) 2006 American Institute of Physics.
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