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Integrated optics for Lab-On-Chip YU GU, Saint Joseph's University, ANDREA CRESPI, Milan Politecnic University, LISA MARIANI, GIANNA VALENTINO, Saint Joseph's University, GIULIO CERULLO, ROBERTO OSELLAME, Milan Politecnic University, SAINT JOSEPH'S UNIVERSITY DEPARTMENT OF PHYSICS, GU LAB TEAM, MILAN POLITENIC UNIVERSITY DEPARTMENT OF PHYSICS, IFN TEAM — The miniaturization of traditional chemical and biochemical functionalities called Lab-On-Chip has many advantageous over existing methods, such as portability, small sample size, multiplexing and simpler automation and standardization. In recent years, the integration of microfluidic and microoptical elements together onto monolithic platforms has led to the new term optofluidics. We present novel optofluidic devices based on integrated waveguides, microfluidic channels and high-index fluids. Such devices have a variety of applications including label-free biochemical sensing and telecommunications.

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