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(54) **MICROFLUIDIC ARRAY DEVICES AND METHODS OF MANUFACTURE AND USES THEREOF**

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(57) **ABSTRACT**

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Microfluidic nozzle array devices are provided with the body of each device having at least one nozzle extending outwardly from one surface of the body. Each nozzle includes a tip opening having a diameter of equal to or less than about 100 μm , preferably 50 μm , and more preferably 20 μm and an outer diameter of nozzle is equal to or less than about 150 μm , preferably 100 μm , and more preferably 50 μm . The microfluidic nozzle array devices are fabricated using an injection molding process and find particular utility in a wide range of applications, including but not limited to nanospray/electrospray applications, mass spectrometer applications, optical spectrometry applications, spotting applications (i.e., DNA or protein array), etc.

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