

## Porous Conjugated Polymer Nanotip Arrays for High Stable Field Emitter

Huibiao Liu, Yongjun Li, Yuliang Li

Beijing National Laboratory for Molecular Sciences (BNLMS), CAS Key Laboratory of Organic Solids, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, People's Republic of China  
E-mail: liuhb@iccas.ac.cn

Large area (26.7 cm<sup>2</sup>) nanotip arrays of porous conducting poly [5, 10, 15, 20-tetra (4-ethynylphenyl) porphyrin] diyne (TEPPD) have been successfully fabricated by an in-situ cross-coupling reaction on the surface of the copper foil, which will open a new routine for large area nanofabrication of porous conducting polymer on a conducting substrate. The surface-area of TEPPD nanotip arrays is up to 146 m<sup>2</sup>/g. Interestingly, the nanotip arrays of TEPPD display a good field emission property and exhibit a better stability of field emission than that of organic and polymeric nanostructures due to the good heat radiation of porous, which is comparable to some important nanostructures of inorganic semiconductor. The porous conducting polymer could be used for new field emission emitter and other molecular electronic devices.

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