

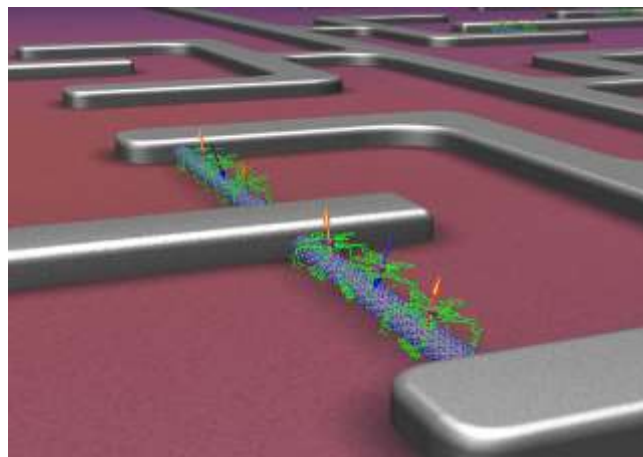
(SUPRA)MOLECULAR QUANTUM SPINTRONICS

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Abstract

Magnetic molecules have recently attracted interest in view of their potential to realize nanometre-sized (single-)molecular spintronic devices by a combination of bottom-up self-assembly and top-down lithography techniques. We report herein on the controlled generation of magnetic molecular nanostructures on conducting surfaces, partially self-assembled on sp²-carbon nano-structures (SW-CNTs, graphene, etc.), or between nano-gap gold electrodes. The obtained supramolecular devices are investigated in view of their I-V-characteristics by means of UHV- and solution-based scanning probe, break junction and electromigration techniques. [1-8]



LITERATURE

- [1] S. Kyatskaya et. al. J. Am. Chem. Soc. 131, 15143-15151 (2009)
- [2] M. Urdampilleta et al. Nature Mater. 10, 502-506 (2011)
- [3] J. Schwöbel et. al. Nature Comms. 3, 953-956 (2012)
- [4] R. Vincent et al. Nature 488, 357-360 (2012)
- [5] M. Ganzhorn et al. Nature Nano. 8, 165–169 (2013)
- [6] M. Ruben et. al. Nature Nano. 8, 377–389 (2013)
- [7] S. Wagner et. al. Nature Nano. 8, 575–579 (2013)
- [8] S. Thiele, et al. Science, 344, 1135-1138 (2014)

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