

Title (en)  
MOLECULAR SCALE ELECTRONIC DEVICES

Title (de)  
MOLEKULARE ELEKTRONISCHE VORRICHTUNG

Title (fr)  
DISPOSITIFS ELECTRONIQUES A L'ECHELLE MOLECULAIRE

Publication  
**EP 1542869 A4 20050622 (EN)**

Application  
**EP 00991376 A 20000918**

Priority

- US 0025518 W 20000918
- US 15471699 P 19990920
- US 15714999 P 19990930
- US 52788500 A 20000320
- US 55171600 A 20000418

Abstract (en)

[origin: WO0127972A2] Molecular scale electronic devices are disclosed. Such devices include at least two conductive contacts, and a conductive path bridging the contacts. The conductive path is able to be written into a perturbed state by a voltage pulse, which can be of high or low conductivity, relative to an initial state. The conductive path comprises organic molecules including at least one electron-withdrawing group. Room temperature negative differential resistance is exhibited by the devices.

[origin: WO0127972A2] Molecular scale electronic devices (1) are disclosed. Such devices include at least two conductive contacts (9 and 11), and a conductive path (13) bridging the contacts. The conductive path is able to be written into a perturbed state by a voltage pulse, which can be of high or low conductivity, relative to an initial state. The conductive path comprises organic molecules including at least one electron-withdrawing group. Room temperature negative differential resistance is exhibited by the devices.

IPC 1-7  
**B32B 27/32**; **H01L 35/24**; **C07D 207/30**

IPC 8 full level  
**H01L 27/10** (2006.01); **C30B 29/00** (2006.01); **G11C 13/02** (2006.01); **H01L 21/28** (2006.01); **H01L 21/283** (2006.01); **H01L 27/28** (2006.01); **H01L 51/05** (2006.01); **H01L 51/10** (2006.01); **H01L 51/30** (2006.01)

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Citation (search report)

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- [A] SCHUMM J S ET AL: "POTENTIAL MOLECULAR WIRES AND MOLECULAR ALLIGATOR CLIPS", NANOTECHNOLOGY, INSTITUTE OF PHYSICS, GB, vol. 7, no. 4, December 1996 (1996-12-01), pages 430 - 433, XP000997562, ISSN: 0957-4484
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- See references of WO 0127972A2

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