

Electronic conduction through new π -conjugated compounds

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In recent years, π -conjugated organic compounds have become a widely investigated class of advanced materials as they exhibit a variety of interesting electronic properties. One of the most attractive properties is the lower HOMO-LUMO gap, which results in much higher charge transport efficiency of the π -conjugated compounds as compared to that of saturated compounds.

In this study, π -conjugated compounds (Figure 1) were synthesised using a recently developed method [1, 2]. We investigate electronic conduction through the π -conjugated compounds using conducting atomic force microscopy (AFM) by sandwiching the π -conjugated compounds between a gold substrate and a gold-coated AFM tip.

References:

[1] Y. Takayama, C. Delas, K. Muraoka, F. Sato, *Org. Lett.*, **5** (2003) 365.

[2] Y. Takayama, C. Delas, K. Muraoka, M. Uemura, F. Sato, *J. Am. Chem. Soc.*, **125** (2003) 14163.

Figure 1

