HOKKAIDO UNIVERSITY

AMBITIOUS LEADER'S PROGRAM

Fostering Future Leaders to Open New Frontiers in Materials Science

Ambitious 物質科学セミナー

Molecular Turnstiles

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平成 27 年 3 月 11 日（水）13:00~14:30

北海道大学 理学部 6 号館 6−204（02）

Molecular translational or rotational motors are molecular architecture for which movements between a fixed and a mobile portion may be induced by external stimuli. As a first step towards molecular motors, a series of molecular turnstiles have been designed and synthesized. The first category is based on Sn(IV)porphyrins as stators bearing at the *meso* positions interactions sites and equipped with different handles as rotors. The connection between stators and rotors is achieved through Sn-O.

The second design principle is based on the covalent attachment of the rotor to the stator using two opposite *meso* positions on the porphyrin backbone (strapped porphyrins).

Finally, the tired approach is based on organometallic Pt complexes as rotors and coordinating handles as stators.

The design, synthesis and structural characterisations, both in solution by multidimensional ^{1}H-NMR techniques and in the solid state by X-ray diffraction on single crystals, of a series of molecular gates and turnstiles of both categories is presented and discussed.

HOSSEINI 教授の研究室の大学院生 Nicolas MARETS さん、および Cyril ADOLF さんと関連分野の総合化学院大学院生による大学院生ワークショップを 3 月 12 日午後 3 時から 6 号館 6-204-02 で行いますので，こちらのほうも是非ご参加ください。

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