

## **List of publications**

### **1. Publications which constitute the present thesis.**

1. H. Takahashi and J. Mizuguchi: Hydrogen gas sensor utilizing a high proton affinity of pyrrolopyrrole derivatives, *J. Electrochem. Soc.* **152**, H69-H73 (2005).
2. H. Takahashi and J. Mizuguchi: Carrier determination and frequency response of H<sub>2</sub> gas sensors based on dipyridyldiketopyrrolopyrroles, submitted to *J. Electrochem. Soc.* (2005).
3. J. Mizuguchi, T. Imoda, H. Takahashi and H. Yamakami: Polymorph of 1,4-diketo-3,6-bis-(4'-dipyridyl)-pyrrolo-[3,4-c]pyrrole and their hydrogen bond network: A material for H<sub>2</sub> gas sensor, *Dyes and Pigments*. **68**, 47-52 (2005).
4. J. Mizuguchi, H. Takahashi and H. Yamakami: Crystal structure of 3,6-bis(4'-pyridyl)-pyrrolo[3,4-c]pyrrole-1,4-dione, *Z. Krist. NCS* **217**, 519-520 (2002).
5. J. Mizuguchi, T. Imoda and H. Takahashi:  
3,6-Di-4-pyridylpyrrolo[3,4-c]pyrrole-1,4(2H,5H)-dione, *Acta Cryst.* **E61**, o500-o502 (2005).
6. T. Imoda, T. Hirota, H. Takahashi and J. Mizuguchi:  
3,6-Di-2-pyridylpyrrolo[3,4-c]pyrrole-1,4(2H,5H)-dione, *Acta Cryst.* **E61**, o616-o618 (2005).

### **2. Patents**

1. J. Mizuguchi and H. Takahashi: Sensors based on proton acceptors, Application No. 2005-221593 in Japan.

### **3. International Conference**

1. H. Takahashi and J. Mizuguchi: Hydrogen gas sensor utilizing a high proton affinity

of pyrrolopyrrole derivatives, presented at the 207th Meeting of the American Electrochem. Soc. (2005).

2. J. Mizuguchi, T. Imoda, T. Hirota and H. Takahashi: Sensitivity of pyrrolopyrrole H<sub>2</sub> gas sensors as viewed from crystal structures, presented at the 207th Meeting of the American Electrochem. Soc. (2005).

#### **4. Other publications**

1. J. Mizuguchi, H. Takahashi and K. Shiokawa: Desorption of water molecules and its effect on the dark conductivity and photoconductivity in X-magnesiumphthalocyanine, *J. Imag. Sci. Tech.* **47**, 441-446 (2003).
2. J. Mizuguchi, K. Hino, K. Sato, H. Takahashi and S. Suzuki: *N,N'-Di-3-pyridylperylene-3,4:9,10-bis(dicarboximide)*, *Acta Cryst.* **E61**, o434-o436 (2005).
3. J. Mizuguchi, K. Hino, K. Sato, H. Takahashi and S. Suzuki: *N,N'-Di-2-pyridylperylene-3,4:9,10-bis(dicarboximide)*, *Acta Cryst.* **E61**, o437-o439 (2005).
4. J. Mizuguchi, K. Hino, K. Sato, H. Takahashi and S. Suzuki: *N,N'-Di-4-pyridylperylene-3,4:9,10-bis(dicarboximide)*, *ActaCryst.* **E61**, o440-o441 (2005).
5. H. Takahashi, T. Imoda and J. Mizuguchi : A high -performance H<sub>2</sub> gas sensor using pyrrolopyrrole derivatives - A novel H<sub>2</sub> gas sensor based on proton acceptors -, *Fuel Cell* **4**, 37-40 (2005) (in Japanese).