

THE FORMATION MECHANISM OF ASSEMBLED COMPLEXES BRIDGED BY 1,3-BIS(4-PYRIDYL)PROPANE

Haruka Dote^a, Hiroki Yasuhara^a, Satoru Nakashima^{a,b*}

^aDepartment of Chemistry, Graduate School of Science, Hiroshima University
1-3-1 Kagamiyama, Higashi-Hiroshima, Hiroshima 739-8526, Japan

^bNatural Science Center for Basic Research and Development (N-BARD), Hiroshima University
1-4-2 Kagamiyama, Higashi-Hiroshima, Hiroshima 739-8526, Japan

*e-mail: snaka@hiroshima-u.ac.jp

Abstract. Several types of differently coloured crystals (light blue, blue and red) were obtained in the synthesis of assembled complex of mixed crystals with three metals by using solvent diffusion method. The mechanism of obtaining the assembled complexes is discussed based on the structure and colour change. The red crystal has 2D interpenetrated structure. The light-blue samples were $[H_2(bpp)][M(NCS)_4]$ and they were built up spirally. The blue samples were $M(NCS)_2(bpp)$ and they formed 1D chain. $[H_2(bpp)][M(NCS)_4]$ changed to 1D chain polymer $M(NCS)_2(bpp)$ by releasing HNCS from the cation and anion in a reaction vessel. Inductively Coupled Plasma Atomic Emission Spectroscopy, Electrospray Ionization Mass Spectrometry and X-Ray diffraction were used for characterization of the obtained complexes.

Keywords: mixed crystal, assembled complex, 1,3-bis(4-pyridyl)propane, crystal formation.

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