
Foreword

This is a special issue on organometallic research related to microelectronics in Japan. The history of organometallic studies in Japan is long. Early activities are found, for example, in Harada's work in 1945.¹ Much organosilicon work was done in the 1950's. Organometallic studies in Japan prospered from the late 1950's or early 1960's with works by Professors Okawara, Kumada, Hagihara and Murahashi, among others. The Symposium of Organometallic Chemistry, Japan has been held once a year, and the 1990 Symposium was the 37th.

The organometallic research in Japan has developed in two directions. One is synthetic and structural works from a more inorganic interest. The other is on the use of organometallic compounds as catalysts in preparative organic chemistry. Its interest stems from the more organic side, naturally. Organometallic study in Japan has been much accelerated by the impetus from the need to fabricate materials related to microelectronics, such as semiconductors, micro-particles, superconductors, nonlinear optical materials, etc. The trend of research related to these subjects is again divided in two categories. One is the preparation of metals or semiconductors by dissociation of organometallic compounds. The other is the use of organometallic compounds for

semiconducting materials, nonlinear optical materials, insulating films, etc.

The wide scope of the research activities is partly reflected in the collection of papers in this volume. It ranges from CVD/epitaxial growth of compound semiconductors (Hanabusa, Ohki, Maeda and Kikuzono), fundamental physico-chemical properties of organometallics (Nagaoka, Kuniya), surface photochemistry (Kawasaki, Ukisu), colloid particles (T. Sato), fine particle formation (Shimo), fundamentals and applications (nonlinear, superconductor) of organometallic complexes (Sakaguchi, Ushijima and Hashimoto) and organometallic polymers (Sugitani), to related inorganic chemistry (Itoh). Use of synchrotron radiation (SR) is reviewed by Urisu. A bird's eye view of organometallic research related to applications to microelectronics in Japan is given by H. Sato.

References

1. T. Harada, *Sci. Pap. I.P.C.R.* 1945, 43: 178.

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