

## List of Publication (in The Univ. of Tokyo)

### Original Papers

<Sugawara & Awaga lab.>

- (1) Crystal state and liquid crystal state polymerization of unsymmetrical diacetylenes with an orientation-controlling substituent,  
T. Okuno, M. Fukada, A. Izuoka, N. Sato and T. Sugawara,  
*Mol. Cryst. Liq. Cryst.*, **217**, pp. 59-64 (1992).
- (2) Kinetic feature of nematic phase polymerization of diacetylenes,  
A. Izuoka, T. Okuno, T. Ito, T. Sugawara, N. Sato, S. Kamei and K. Tohyama,  
*Mol. Cryst. Liq. Cryst.*, **226**, pp. 201-205 (1993).
- (3) Crystal structure and solid state reactivity of unsymmetrically aryl-substituted diacetylene,  
T. Okuno, A. Izuoka, K. Kume, N. Sato and T. Sugawara,  
*Mol. Cryst. Liq. Cryst.*, **225**, pp. 393-398 (1993).
- (4) Variable magnetic interaction in an organic radical system of (*m*-*N*-methylpyridinium  $\alpha$ -nitronyl nitroxide) $\cdot X^-$ : A possible *kagomé* antiferromagnet,  
K. Awaga, T. Okuno, A. Yamaguchi, M. Hasegawa, T. Inabe, Y. Maruyama and N. Wada,  
*Phys. Rev. B*, **49**, pp. 3975-3981 (1994).
- (5) Magneto-structural correlation in a series of iodine salts of *p*-*N*-alkylpyridinium nitronyl nitroxide: Dependence of the iodide-pyridinium ring interaction on the length of the *N*-alkyl chain,  
K. Awaga, A. Yamaguchi, T. Okuno, T. Inabe, T. Nakamura, M. Matsumoto and Y. Maruyama,  
*J. Mater. Chem.*, **4**, pp. 1377-1385 (1994).
- (6) Possible "reentrant" behavior in magnetic properties of TBA[Fe(tdas)<sub>2</sub>] complex,  
K. Awaga, T. Okuno, Y. Maruyama, A. Kobayashi, H. Kobayashi, Stephen Schenk and A. E. Underhill,  
*Inorg. Chem.*, **33**, pp. 5598-5600 (1994).
- (7) Coexistence of intermolecular ferromagnetic interaction and [NHN]<sup>+</sup> hydrogen bond in *N*-protonated *m*-pyridyl nitronyl nitroxide,  
T. Okuno, T. Otsuka and K. Awaga,  
*J. Chem. Soc. Chem. Commun.*, **1995**, pp. 827-828 (1995).

- (8) ESR studies of 2-D magnetic system in an organic cation radical salt,  $m$ -MPYNN<sup>+</sup>•X<sup>-</sup>  
M. Hasegawa, A. Yamaguchi, T. Okuno and K. Awaga,  
*Synthetic Metals*, **71**, pp. 1797-1798 (1995).
- (9) Crystal structures and magnetic properties of ( $m$ -pyridinium nitronyl nitroxide)<sup>+</sup>•X<sup>-</sup>:  
possible spin-1 *kagomé* antiferromagnet,  
K. Awaga, T. Okuno, A. Yamaguchi, M. Hasegawa, T. Inabe, Y. Maruyama and N.  
Wada,  
*Synthetic Metals*, **71**, pp. 1807-1808 (1995).
- (10) Ferromagnetic and antiferromagnetic intermolecular arrangements of the  $N$ -  
alkylpyridinium nitronyl nitroxide,  
K. Awaga, A. Yamaguchi and T. Okuno,  
*Mol. Cryst. Liq. Cryst.*, **271**, pp. 97-105 (1995).
- (11) New aspects of high-spin chemistry,  
K. Itoh, T. Takui, Y. Teki, K. Sato, D. Shiomi, T. Kinoshita, T. Nakamura, T. Monose,  
T. Shida, T. Okuno, A. Izuoka, T. Sugawara, T. Kaneko, E. Tsuchida and H. Nishide,  
*Mol. Cryst. Liq. Cryst.*, **271**, pp. 129-146 (1995).
- (12) Change of Electronic Absorption Spectra Observed through Heating Evaporated Thin  
Films of a Diacetylene Compound,  
N. Sato, M. Oda, T. Okuno, A. Izuoka and T. Sugawara, *Mol. Cryst. Liq. Cryst.*, **277**(1),  
195-203 (1996)
- (13) Magnetic behavior of the layered perovskite ferromagnet ( $p$ -cyanoanilinium<sup>+</sup>)<sub>2</sub> CuCl<sub>4</sub><sup>2-</sup>  
under hydrostatic pressure,  
T. Sekine, T. Okuno and K. Awaga,  
*Chem. Phys. Lett.*, **249**, pp. 201-204 (1996).
- (14) Crystal structures and magnetic properties of MCl<sub>4</sub><sup>2-</sup> (M=Mn(II) and Co(II)) salts of  
 $m$ - and  $p$ - $N$ -methylpyridinium nitronyl nitroxides,  
A. Yamaguchi, T. Okuno and K. Awaga,  
*Bull. Chem. Soc. Jpn.*, **69**, pp. 875-882 (1996).
- (15) [NHN]<sup>+</sup> hydrogen bond in organic radical solid,  
T. Okuno and K. Awaga,  
*Mol. Cryst. Liq. Cryst.*, **279**, pp. 57-63 (1996).

- (16) Intermolecular arrangement of *p*-substituted aniliniums in the interlayer of cupric chloride,  
T. Sekine, T. Okuno and K. Awaga,  
*Mol. Cryst. Liq. Cryst.*, **279**, pp. 65-72 (1996).
- (17) Molecular spin ladder in the Ni(dmit)<sub>2</sub> (dmit=1,3-dithiol-2-thione-4,5-dithiolate) salt with a nitronyl nitroxide cation,  
H. Imai, T. Inabe, T. Otsuka, T. Okuno and K. Awaga,  
*Phys. Rev. B*, **54**, pp. 6838-6840 (1996)
- (18) Intercalation of functional organic molecules into copper(II) magnetic materials,  
K. Awaga, W. Fujita, T. Sekine and T. Okuno,  
*Mol. Cryst. Liq. Cryst.*, **286**, pp. 1-8 (1996).
- (19) Mössbauer spectroscopic study of the reentrant phase transitions in TBA[Fe(tdas)<sub>2</sub>]  
M. Takahashi, M. Takeda, K. Awaga, T. Okuno, Y. Maruyama, A. Kobayashi, H. Kobayashi, S. Schenk, N. Robertson and A. E. Underhill,  
*Mol. Cryst. Liq. Cryst.*, **286**, pp. 77-82 (1996).
- (20) Novel organic ions of high-spin states. 5. Generation of a high-spin ground-state anion from an intramolecularly spin-frustrated system,  
T. Nakamura, T. Momose, T. Shida, K. Sato, S. Nakazawa, T. Kinoshita, T. Takui, K. Ito, T. Okuno, A. Izuoka and T. Sugawara,  
*J. Am. Chem. Soc.*, **118**, pp. 8684-8687 (1996).
- (21) Observation of spin-gap state in the organic spin-1 *Kagome* antiferromagnet, *m*-MPYNN•BF<sub>4</sub>,  
N. Wada, T. Kobayashi, H. Yano, T. Okuno, A. Yamaguchi and K. Awaga,  
*J. Phys. Soc. Jpn.*, **66**(4), pp. 961-964 (1997).
- (22) Unusual crystal structures and magnetic properties of nitronyl nitroxide radical ions  
K. Awaga, K. Takeda, A. Yamaguchi, T. Okuno, H. Yano and N. Wada,  
*Synth. Metals*, **85**, pp. 1643-1646 (1997).
- (23) Ferromagnetic interaction between nitronyl nitroxide radical cations in a semiconducting salt,  
H. Imai, T. Inabe, T. Otsuka, T. Okuno and K. Awaga,  
*Synth. Metals*, **85**, pp. 1705-1706 (1997).

- (24) Ferromagnetic linear chain of  $p$ -NPNN•Cu(hfac)<sub>2</sub> with enhanced interchain interaction, T. Origuchi, W. Fujita, A. Yamaguchi, T. Okuno, K. Awaga, H. Yano and N. Wada, *Mol. Cryst. Liq. Cryst.*, **296**, pp. 281-292 (1997).
- (25) Magnetic interaction in the 1:1 salts of nitronyl nitroxide cations with the dicyanophthalocyanatocobalt(III) anion, K. Mitsuya, T. Inabe, T. Okuno and K. Awaga, *Mol. Cryst. Liq. Cryst.*, **296**, pp. 293-303 (1997).
- (26) Hydrogen-bonded acid-base molecular complexes of nitronyl nitroxides, T. Otsuka, T. Okuno, M. Ohkawa, T. Inabe and K. Awaga, *Mol. Cryst. Liq. Cryst.*, **306**, pp. 285-292 (1997).
- (27) Ferromagnetic intermolecular interaction of  $N$ -protonated pyridylphenylcarbene, T. Okuno and K. Awaga, *Mol. Cryst. Liq. Cryst.*, **305**, pp. 579-586 (1997).
- (28) Crystal structures and magnetic properties of acid-base molecular complexes, ( $p$ -pyridyl nitronyl nitroxide)<sub>2</sub>X (X=hydroquinone, fumaric acid, and squaric acid). T. Otsuka, T. Okuno, K. Awaga and T. Inabe, *J. Mater. Chem.*, **8**, pp. 1157-1163 (1998).
- (29) Observation of spontaneous magnetization in the layered perovskite ferromagnet ( $p$ -chloroanilinium)<sub>2</sub> CuBr<sub>4</sub>, T. Sekine, T. Okuno and K. Awaga, *Inorg. Chem.*, **37**, pp. 2129-2133 (1998).
- (30) Proton spin-lattice relaxation in  $m$ -MPYNN<sup>+</sup>•X<sup>-</sup> (X=ClO<sub>4</sub>, BF<sub>4</sub>) at ultra low temperatures, Y. Fujii, T. Goto, K. Awaga, T. Okuno, Y. Sasaki and T. Mizusaki, *J. Magnetism and Magnetic Materials*, **177-181**, pp. 991-992 (1998).
- (31) Reactivity of mesogenic diacetylenes coupled with phase transitions between crystal and liquid crystal phases, T. Okuno, A. Izuoka, T. Ito, S. Kubo, T. Sugawara, N. Sato and Y. Sugawara, *J. Chem. Soc., Perkin Trans. 2*, **1998**, pp. 889-895 (1998).
- (32) Magic angle spinning <sup>1</sup>H-NMR study of the spin density distribution of pyridyl nitronyl nitroxides, in the crystalline phase, G. Maruta, S. Takeda, A. Yamaguchi, T. Okuno and K. Awaga, *Mol. Cryst. Liq. Cryst. Sci. Technol. Sect. A*, **334**, pp. 295-304 (1999).

- (33) Magic angle spinning  $^1\text{H}$ -NMR study of the spin density distribution of pyridyl nitronyl nitroxides in the crystalline phase.  
G. Maruta, S. Takeda, A. Yamaguchi, T. Okuno, K. Awaga and K. Yamaguchi,  
*Mol. Cryst. Liq. Cryst. Sci. Technol., Sect. A*, **334**, pp. 295-304 (1999).
- (34) Nuclear magnetic relaxation of  $^1\text{H}$  in the organic radical salts  $m\text{-MPYNN}^+\cdot\text{ClO}_4^-$  and  $m\text{-MPYNN}^+\cdot\text{BF}_4^-$ .  
Y. Fujii, T. Goto, A. Oyamada, T. Okuno and K. Awaga,  
*J. Phys. Soc. Jpn.*, **69**, pp. 1294-1297 (2000).
- (35) Spin Density Distributions of p-N-Alkylpyridinium Nitronyl Nitroxides Studied by Solid-State High-Resolution NMR.  
G. Maruta, S. Takeda, A. Yamaguchi, T. Okuno and K. Awaga  
*Polyhedron*, **22**, 1989-1994 (2003).

## Books

- (1) Polymerization of Diacetylenes in Liquid Crystal Phases and Its Application to the Preparation of High Spin Polydiacetylenes,  
A. Izuoka, T. Okuno, T. Sugawara, *The Physics and Chemistry of Organic Superconductors*, edited by G. SAITO and S. KAGOSHIMA, Springer-Verlag in 1990  
pp.428-431.
- (2) 「配向制御部位を有するジアセチレンの固相、液晶相重合反応の解析」  
菅原、泉岡、奥野、佐藤、大橋裕二編 「分子性結晶の反応」 Realize Inc. pp 265-273 (1992).