

構造熱科学研究センター業績リスト (2013)
Publications from
the Research Center for Structural Thermodynamics

[Articles are classified according to original paper (mark O), review article (R), book (B), translation (T), and miscellaneous (M). An asterisk attached to mark-letter indicates that the article has been published in Japanese. The articles with underlined mark-letters have been reproduced in this issue with permission of the respective publishers. As for the articles which have not been reproduced in this issue, please ask the authors directly if you need.]

- O-1 Structural and Calorimetric Investigations of Highly Disordered Crystal $[\text{Co}(\text{NH}_3)_6](\text{BF}_4)_3$
N. Górská, A. Inaba, Y. Hirao, and E. Mikuli
J. Coord. Chem. **66**(7), 1238–1251 (2013).
- O-2 Calorimetric, Spectroscopic and Structural Investigations of Phase Polymorphism in $[\text{Ru}(\text{NH}_3)_6](\text{BF}_4)_3$. Part I
D. Dołęga, E. Mikuli, A. Inaba, N. Górská, K. Hołderna-Natkaniec, and W. Nitek
J. Solid State Chem. **197**, 429–439 (2013).
- O-3 Phase Polymorphism of Novel $[\text{Ru}(\text{NH}_3)_6](\text{ClO}_4)_3$ – Comparison with $[\text{Ru}(\text{NH}_3)_6](\text{BF}_4)_3$. Part II
D. Dołęga, E. Mikuli, N. Górská, A. Inaba, K. Hołderna-Natkaniec, and W. Nitek
J. Solid State Chem. **204**, 233–244 (2013).
- O-4 Hydration Water and Peptide Dynamics – Two Sides of a Coin. A Neutron Scattering and Adiabatic Calorimetry Study at Low Hydration and Cryogenic Temperatures
M. Bastos, N. Alves, S. Maia, P. Gomes, A. Inaba, Y. Miyazaki, and J.-M. Zanotti
Phys. Chem. Chem. Phys. **15**(39), 16693–16703 (2013).
- O-5 Bilayer Mott System with Cation···Anion Supramolecular Interactions Based on Nickel Dithiolene Anion Radical: Coexistence of Ferro- and Antiferromagnetic Anion Layers and Large Negative Magnetoresistance
T. Kusamoto, H. M. Yamamoto, N. Tajima, Y. Oshima, S. Yamashita, and R. Kato
Inorg. Chem. **52**(9), 4759–4761 (2013).
- O-6 Condensation Energy for a Two-Gap Superconducting State in Nanoparticles
S. P. Kruchinin, H. Kawabe, H. Nagao, and Y. Nakazawa
J. Nanoparticles **2013**, 576232 (2013) (6 pages).
- O-7 Magnetic Transition in Dimerized Radical Cation Salt of $(\text{BPDT-TTF})_2\text{ICl}_2$ Studied by Heat Capacity Measurements
G.-Y. Guan, S. Fukuoka, S. Yamashita, T. Yamamoto, H. Taniguchi, and Y. Nakazawa
J. Therm. Anal. Calorim. **113**(3), 1197–1201 (2013).
- O-8 Development of Heat Capacity Measurement System for Single Crystals of Molecule-Based Compounds
S. Fukuoka, Y. Horie, S. Yamashita, and Y. Nakazawa
J. Therm. Anal. Calorim. **113**(3), 1303–1308 (2013).
- O-9 Antiferromagnetic Fluctuations and Proton Heat Capacity in Doped Organic Conductor κ -

(BEDT-TTF)₄Hg_{2.78}Cl₈

R. Yoshimoto, A. Naito, S. Yamashita, and Y. Nakazawa
Physica B **427**, 1–4 (2013).

- O-10 Polymer Colloids Formed by Polyelectrolyte Complexation of Vinyl Polymers and Polysaccharides in Aqueous Solution
H. Liu and T. Sato
Chinese J. Polym. Sci. **31**(1), 39–49 (2013).
- O-11 Measurement of the Mechanocaloric Effect in Rubber
A. Sakata, N. Suzuki, Y. Higashiura, T. Matsuo, and T. Sato
J. Therm. Anal. Calorim. **113**(3), 1555–1563 (2013).
- O-12 Self-Association of a Thermosensitive Amphiphilic Block Copolymer Poly(*N*-isopropylacrylamide)-*b*-poly(*N*-vinyl-2-pyrrolidone) in Aqueous Solution upon Heating
T. Sato, K. Tanaka, A. Toyokura, R. Mori, R. Takahashi, K. Terao, and S. Yusa
Macromolecules **46** (1), 226–235 (2013).
- O-13 Lyotropic Liquid Crystallinity of Amylose Tris(alkylcarbamates): Cholesteric and Smectic Phase Formation in Different Solvents
K. Oyamada, K. Terao, M. Suwa, S. Kitamura, and T. Sato
Macromolecules **46**(11), 4589–4595 (2013).
- O-14 Solution Properties of a Cyclic Chain Having Tunable Chain Stiffness: Cyclic Amylose Tris(*n*-butylcarbamate) in Θ and Good Solvents
K. Terao, K. Shigeuchi, K. Oyamada, S. Kitamura, and T. Sato
Macromolecules **46**(13), 5355–5362 (2013).
- O-15 Dynamic Segment Size of the Cellulose Chain in an Ionic Liquid
A. Maeda, T. Inoue, and T. Sato
Macromolecules **46**(17), 7118–7124 (2013).
- O-16 Copper-Catalyzed Azide-Alkyne Cycloaddition Oligomerization of 3-Azido-1-propyne Derivatives
A. Hashidzume, T. Nakamura, and T. Sato
Polymer **54**(14), 3448–3451 (2013).
- R-1 Update 1 of: Calorimetric Investigations of Phase Transitions Occurring in Molecule-Based Magnets
M. Sorai, Y. Nakazawa, M. Nakano, and Y. Miyazaki
Chem. Rev. **113**(1), PR41–PR122 (2013).
- R-2 Magnetic Systems at Criticality: Different Signatures of Scaling
R. Pełka, P. Konieczny, M. Fitta, M. Czapla, P. M. Zieliński, M. Bałanda, T. Wasiutyński, Y. Miyazaki, A. Inaba, D. Pinkowicz, and B. Sieklucka
Acta Phys. Pol. A **124**(6), 977–989 (2013).
- R-3* 機能性金属錯体の分子論的熱力学の展開
俣徠道夫

Bull. Jpn. Soc. Coord. Chem. **61**, 17–37 (2013).

- R-4* 市民運動としてのサイエンスカフェ ― 平和学・複雑系科学からの考察
長野八久
日本の科学者 **48**(3), 40–46 (2013).
- R-5 Thermodynamics of a Liquid-Like Spin State in Molecule-Based Magnets with Geometric Frustrations
Y. Nakazawa and S. Yamashita
Chem. Lett. **42**(12), 1446–1454 (2013).
- R-6* ダイマー型分子性導体における量子スピン液体のギャップレスな励起構造
山下智史
熱測定 **40**(3), 120–126 (2013).
- B-1* 第 1 章 高分子鎖の分子形態, 第 2 章 溶液物性
佐藤尚弘
高分子の構造と物性 (松下裕秀編, 講談社サイエンティフィク, A5 版, 538 頁)
(2013 年 5 月 30 日発行) .
- M-1* 千原秀昭先生を偲ぶ
稲葉 章
現代化学 **509**, 64–65 (2013).
- M-2* 祖徠道夫会員が錯体化学会貢献賞を受賞
宮崎裕司
熱測定 **40**(1), 37 (2013).
- M-3* 祖徠道夫先生 錯体化学会貢献賞受賞
宮崎裕司
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- M-4* 齋藤一弥先生 日本熱測定学会学会賞受賞
宮崎裕司
永契会 News Letter **26**, 16–17 (2013).
- M-5* 第 68 回 Calorimetry Conference 会議報告
中澤康浩
熱測定 **40**(4), 169 (2013).
- M-6* 高圧下熱容量測定による電子系の相転移に関する研究
福岡脩平, 山下智史, 山本 貴, 中澤康浩
低温センター研究報告書 (平成 24 年度) 29–32 (2013).
- M-7* 化学系教室の近況報告
中澤康浩, 今田勝己
永契会 News Letter **26**, 6–8 (2013).

- M-8* 高分子の分子量
佐藤尚弘
高分子 **62**(9), 525–528 (2013).
- M-9* 巻頭言
佐藤尚弘
永契会 News Letter **26**, 2 (2013).
- M-10* なんでゴムは伸びるのですか？
佐藤尚弘
日本の学童ほいく **458**, 38 (2013).

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- O-1 Gradual Crossover in Molecular Organization of Stable Liquid H₂O at Moderately High Pressure and Temperature
Y. Koga, P. Westh, K. Yoshida, A. Inaba, and Y. Nakazawa
AIP Adv. **4**(9), 097116 (2014) (11 pages).
- O-2 Multifunctional One-Dimensional Rhodium(I)-Semiquinonato Complex: Substituent Effects on Crystal Structures and Solid-State Properties
M. Mitsumi, S. Ohtake, Y. Kakuno, Y. Komatsu, Y. Ozawa, K. Toriumi, N. Yasuda, N. Azuma, and Y. Miyazaki
Inorg. Chem. **53**(21), 11710–11720 (2014).
- O-3 Measurement of Extreme Hyperfine Fields in Two-Coordinate High-Spin Fe²⁺ Complexes by Mössbauer Spectroscopy: Essentially Free-Ion Magnetism in the Solid State
A. M. Bryan, C.-Y. Lin, M. Sorai, Y. Miyazaki, H. M. Hoyt, A. Hablutzel, A. LaPointe, W. M. Reiff, P. P. Power, and C. E. Schulz
Inorg. Chem. **53**(22), 12100–12107 (2014).
- O-4 Bistable Multifunctionality and Switchable Strong Ferromagnetic-to-Antiferromagnetic Coupling in a One-Dimensional Rhodium(I)-Semiquinonato Complex
M. Mitsumi, T. Nishitani, S. Yamasaki, N. Shimada, Y. Komatsu, K. Toriumi, Y. Kitagawa, M. Okumura, Y. Miyazaki, N. Górska, A. Inaba, A. Kanda, and N. Hanasaki
J. Am. Chem. Soc. **136**(19), 7026–7037 (2014).
- O-5 A Comprehensive Study on Crystal Structure, Thermal Behavior, and Molecular Dynamics of [Sr(DMSO)₄(NO₃)₂]
N. Górska, E. Szostak, K. Druzicki, E. Mikuli, A. Inaba, and Y. Hirao
J. Coord. Chem. **67**(19), 3135–3154 (2014).
- O-6 Magnetocaloric Effect in {[Fe(pyrazole)₄]₂[Nb(CN)₈]-4H₂O}_n Molecular Magnet
R. Pelka, P. Konieczny, P. M. Zieliński, T. Wasiutyński, Y. Miyazaki, A. Inaba, D. Pinkowicz, and B. Sieklucka
J. Magn. Magn. Mater. **354**, 359–362 (2014).
- O-7 Third Derivative Thermodynamic Quantities of Aqueous Tetrahydrofuran at 25 °C
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- O-8 Heat Capacity of Paramagnetic Nickelocene: Comparison with Diamagnetic Ferrocene
Mi. Sorai, Y. Kaneko, and T. Hashiguchi
J. Phys. Chem. Solids **75**(5), 656–661 (2014).
- O-9 Pressure Dependence of the Liquid–Liquid Phase Transition of Nanopore Water Doped Slightly with Hydroxylamine, and a Phase Behavior Predicted for Pure Water

A. Nagoe, S. Iwaki, M. Oguni, and K. Tôzaki
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- O-10 Anomalies in the Third Derivatives of Gibbs Energy and Their Temperature Dependence in Aqueous 2-Butoxyethanol and Glycerol: On the so Called Koga Lines
K. Yoshida, A. Inaba, and Y. Koga
J. Solution Chem. **43**(4), 663–674 (2014).
- O-11 A Comprehensive Study on Crystal Structure, Thermal Behavior, and Molecular Dynamics of $[\text{Sr}(\text{DMSO})_4(\text{NO}_3)_2]$
N. Górski, E. Szostaka, K. Druzbicki, E. Mikulia, A. Inaba, and Y. Hirao
J. Solution Chem. (2014) in press.
- O-12 Two-Dimensional Solid-State Topochemical Reactions of 10,12-Pentacosadiyn-1-ol Adsorbed on Graphite
D. Takajo, A. Inaba, and K. Sudoh
Langmuir **30**(10), 2738–2744 (2014).
- O-13 Molecular Motor-Driven Abrupt Anisotropic Shape Change in a Single Crystal of a Ni Complex
Z.-S. Yao, M. Mito, T. Kamachi, Y. Shiota, K. Yoshizawa, N. Azuma, Y. Miyazaki, K. Takahashi, K. Zhang, T. Nakanishi, S. Kang, S. Kanegawa, and O. Sato
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- O-14 Temperature-Independent Energy Expenditure in Early Development of the African Clawed Frog *Xenopus laevis*
Y. Nagano and K. L. Ode
Phys. Biol. **11**(4), 046008 (2014) (12 pages).
- O-15 Proton Dynamics of Two-Dimensional Oxalate-Bridged Coordination Polymers
S. Miyatsu, M. Kofu, A. Nagoe, T. Yamada, M. Sadakiyo, T. Yamada, H. Kitagawa, M. Tyagi, V. Garcia Sakai, and O. Yamamuro
Phys. Chem. Chem. Phys. **16**(32), 17295–17304 (2014).
- O-16 Two Polymorphic Forms of 10,12-Pentacosadiyn-1-ol Molecular Layers on Graphite Transferred from an Aqueous Surface
D. Takajo, A. Inaba, and K. Sudoh
Surf. Sci. **620**, 38–44 (2014).
- O-17 Stereoisomeric Semiconducting Radical Cation Salts of Chiral Bis(2-hydroxypropylthio)ethylenedithioTTF with Tetrafluoroborate Anions
L. Martin, J. D. Wallis, M. A. Guziak, J. Oxspring, J. R. Lopez, S. Nakatsuji, J. Yamada, and H. Akutsu
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- O-18 Thermodynamic Investigation by Heat Capacity Measurements of Ferrimagnetic $\text{A}_2\text{Mn}[\text{Mn}(\text{CN})_6]$ ($\text{A} = \text{K}, \text{Rb}, \text{Cs}$) Prussian Blue Compounds
Y. Kawamoto, S. Yamashita, R. Yoshimoto, Y. Nakazawa, J. G. DaSilva, C. M. Kareis, and J. S. Miller
J. Phys.: Condens. Matter **26**(1), 016001 (2014) (6 pages).
- O-19 Magnetic Torque Studies of π -d System κ -(BDH-TTP) $_2\text{FeX}_4$ ($\text{X} = \text{Br}, \text{Cl}$)

- K. Sugii, K. Takai, S. Tsuchiya, S. Uji, T. Terashima, H. Akutsu, A. Wada, S. Ichikawa, J. Yamada, and T. Enoki
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- O-20 Property of the Valence-Bond Ordering in Molecular Superconductor with a Quasi-Triangular Lattice
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J. Phys. Soc. Jpn. **83**(5), 053703 (2014) (5 Pages).
- O-21 A Series of Two Oxidation Reactions of *ortho*-Alkenylbenzamide with Hypervalent Iodine(III): A Concise Entry into (3*R*,4*R*)-4-Hydroxymellein and (3*R*,4*R*)-4-Hydroxy-6-methoxymellein
 T. Takesue, M. Fujita, T. Sugimura, and H. Akutsu
Org. Lett. **16**(17), 4634–4637 (2014).
- O-22 Coupling of Charge and Lattice Degrees of Freedoms in θ -Type BEDT-TTF Compound Probed by Low-Temperature Heat Capacity Measurements
 R. Yoshimoto, Y. Takane, K. Hino, S. Yamashita, and Y. Nakazawa
Physica B **449**, 19–24 (2014).
- O-23 Heat Capacity of Spin Liquid System of $\text{EtMe}_3\text{Sb}[\text{Pd}(\text{dmit})_2]_2$
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- O-24 Crystal Structure of $\text{PPh}_4[\text{Fe}(\text{NO})_2\text{Cl}_2]$
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X-Ray Struct. Anal. Online **30**(10), 49–50 (2014).
- O-25* フマルアミド/*N*-イソプロピルアクリルアミド共重合体の水溶液の相挙動
 石井直子, 松元亜紀子, 橋爪章仁, 佐藤尚弘
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- O-26 Light Scattering from Hydrophobe-Uptake Spherical Micelles near the Critical Micelle Concentration
 K. Morishima and T. Sato
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- O-27 Self-Association of the Thermosensitive Block Copolymer Poly(2-isopropyl-2-oxazoline)-*b*-poly(*N*-isopropylacrylamide) in Water–Methanol Mixtures
 R. Takahashi, X.-P. Qiu, N. Xue, T. Sato, K. Terao, and F. M. Winnik
Macromolecules **47**(19), 6900–6910 (2014).
- O-28 Aggregation Behavior of Polystyrene-Based Amphiphilic Diblock Copolymers in Organic Media
 T. Arai, M. Masaoka, T. Michitaka, Y. Watanabe, A. Hashidzume, and T. Sato
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- O-29 Aggregation and Phase Separation of Hydrophilically Modified Poly(dimethylsiloxane) in Methanol–Water Mixtures
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N. Kojima¹, M. Itoi, and Y. Miyazaki
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- R-2 Calorimetric Studies of Octacyanometalate-Based Coordination Polymers Displaying Long-Range Magnetic Order
R. Pelka
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- R-3 Low-Temperature Thermal Properties of Channel Water Confined in Nanopores with Hydrophilic Crystalline and Silica Non-Crystalline Walls
K. Watanabe, A. Nagoe, and M. Oguni
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- R-4 Calorimetry of Low-Dimensional Metal-Assembled Complexes
Y. Miyazaki
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- R-5* 分子集合体の多彩さに魅せられて — 幻の秩序氷を求めて
菅 宏
化学 **69**(9), 47–51 (2014).
- R-6* 単一分子磁石の磁化反転緩和と熱測定
中野元裕
熱測定 **41**(3), 113–119 (2014).
- R-7 Thermal Properties and Transition Behavior of Host-Guest Compounds under High Pressure
O. Andersson and Y. Nakazawa
Curr. Inorg. Chem. **4**(1), 2–18 (2014).
- R-8 Investigations on Electronic States of Molecule-Based Compounds by High-Pressure AC Calorimetry
Y. Nakazawa, R. Yoshimoto, S. Fukuoka, and S. Yamashita
Curr. Inorg. Chem. **4**(2), 122–134 (2014).
- R-9* 剛直性高分子のリオトロピック液晶
寺尾 憲, 佐藤尚弘
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- B-1* 人間性の起源と暴力の克服
長野八久
平和研究入門 (木戸衛一編, 大阪大学出版会, A5 版, 300 頁) (2014 年 4 月発行) .
- B-2* 光散乱法の基礎と応用
柴山充弘, 佐藤尚弘, 岩井俊昭, 木村康之編著
講談社サイエンティフィック, A5 版, 336 頁 (2014 年 11 月発行) .
- M-1 Editorial – Calorimetry of Functional Inorganic Materials: Part I

- M. Sorai and Y. Nakazawa
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- M-2 Editorial – Calorimetry of Functional Inorganic Materials: Part II
M. Sorai and Y. Nakazawa
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- M-3 Editorial – Calorimetry of Functional Inorganic Materials: Part III
M. Sorai and Y. Nakazawa
Curr. Inorg. Chem. **4**(3), 145 (2014).
- M-4 Obituary: Professor Syuzo Seki, Emeritus Professor, Osaka University
H. Suga
J. Chem. Thermodyn. **79**, 290–291 (2014).
- M-5 Obituary
H. Suga and J. Šesták
J. Therm. Anal. Calorim. **117**(1), 523–524 (2014).
- M-6 Obituary – Professor Syuzo Seki (1915–2013), Emeritus Professor, Osaka University
T. Matsuo and H. Suga
Thermochim. Acta **589**, 295–296 (2014).
- M-7* 関 集三 先生のご逝去を悼んで
菅 宏
熱測定 **41**(2), 76–77 (2014).
- M-8* 関研究室の思い出
松尾隆祐
熱測定 **41**(3), 87–88 (2014).
- M-9* 関 集三先生を偲ぶ会
徂徠道夫
熱測定 **41**(3), 89–92 (2014).
- M-10* 徂徠道夫先生 日本液晶学会功績賞受賞
宮崎裕司
永契会 News Letter **27**, 9–10 (2014).
- M-11* 追悼：関 集三先生を悼む
菅 宏
永契会 News Letter **27**, 11–12 (2014).
- M-12* 第 69 回 Calorimetry Conference 会議報告
中澤康浩
熱測定 **41**(3), 125 (2014).
- M-13* 続・高分子の分子量
佐藤尚弘
高分子 **63**(3), 185–188 (2014).