

熱・エントロピー科学研究センター業績リスト(2025)

Publications from the Research Center for Thermal and Entropic Science

[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.]

- O-1 Fast and Efficient Room-Temperature Phosphorescence from Metal-Free Organic Molecular Liquids
Y. Tani, Y. Oshima, R. Okada, J. Fujimura, Y. Miyazaki, M. Nakano, O. Urakawa, T. Inoue, T. Ehara, K. Miyata, K. Onda, and T. Ogawa
Chem. Sci. **16**(37), 17480–17486 (2025) (DOI: 10.1039/d5sc03768a).
- O-2 Insight into Magnetocaloric Properties of Mn₂Nb Molecular Magnet by Relaxation Calorimetry
R. Pelka, Y. Miyazaki, Y. Nakazawa, and D. Pinkowicz
J. Phys. Chem. C **129**(39), 17818–17836 (2025) (DOI: 10.1021/acs.jpcc.5c04387).
- O-3 Terahertz and Infrared Spectroscopy of the Li@C₆₀PF₆ Endofullerene
S. S. Zhukov, A. V. Melentev, N. Orekhov, D. Yulamanova, Yu. Tsukova, P. Zhilyaev, E. S. Zhukova, H. Suzuki, M. Nakano, S. Aoyagi, and B. P. Gorshunov
Phys. Rev. B **112**(7), 075421 (2025) (14 pages) (DOI: 10.1103/49zf-ypl3).
- O-4 Endo- and Exothermal Mechanocaloric Response in Rubbers
T. Matsuo and D. Takajo
J. Therm. Anal. Cal. **150**(9), 7099–7112 (2025)
(DOI: 10.1007/s10973-024-13361-8).
- O-5 Radical-Cation Salts of BEDT-TTF with Tris-Coordinated Racemic Dysprosium(III) and Terbium(III) Anions
E. Howarth, J. Lopez, J. O. Ogar, T. J. Blundell, H. Akutsu, Y. Nakazawa, S. Imajo, Y. Ihara, S. J. Coles, P. N. Horton, J. Christensen, and L. Martin
Dalton Trans. **54**(8), 3207–3215 (2025) (DOI: 10.1039/d4dt03484h).
- O-6 Spontaneous Resolution of the Fe(C₂O₄)₃ Anion and Inclusion of Chiral Guest Molecules in BEDT-TTF Radical-Cation Salts
J. O. Ogar, J. D. Wallis, T. J. Blundell, E. K. Rusbridge, A. Mantle, H. Akutsu, Y. Nakazawa, S. Imajo, and L. Martin
Inorg. Chem. **64**(2), 1075–1084 (2025) (DOI: 10.1021/acs.inorgchem.4c04622).

- O-7 2D Quantum Spin-Liquid Candidate Including a Chiral Anion: κ -(BEDT-TTF)₂[B_{R/S}(salicylate)₂]
T. J. Blundell, K. Sneade, J. O. Ogar, S. Yamashita, H. Akutsu, Y. Nakazawa, T. Yamamoto, and L. Martin
J. Am. Chem. Soc. **147**(7), 5658–5668 (2025) (DOI: 10.1021/jacs.4c12386).
- O-8 Direct Measurement of Magnetocaloric Effect (MCE) in Frustrated Gd-Based Molecular Complexes
Y. Zhang, T. Nomoto, S. Yamashita, H. Akutsu, N. Yoshinari, T. Konno, and Y. Nakazawa
J. Therm. Anal. Cal. **150**(9), 7179–7188 (2025)
(DOI: 10.1007/s10973-024-13344-9).
- O-9 Frustrated Random-Singlet State with Ice-Type Structural Fluctuation in Spinel Titanates
N. Hanasaki, T. Hattori, T. Komoda, K. Minamoto, S. Torigoe, S. Yamashita, Y. Nakazawa, T. Nakno, K. Yoshimi, M. Yashima, H. Mukuda, U. Widyaiswari, I. Watanabe, A. Koda, T. Honda, T. Otomo, H. Sagayama, K. Kodama, H. Murakawa, and H. Sakai
PNAS **123**(1), e2517926123 (2025) (6 pages) in press
(DOI: 10.1073/pnas.2517926123).
- O-10 Uniaxial Ordering by Self-Assembly of Isotropic Octahedral Junctions
K. Saito
J. Chem. Phys. **162**(21), 214701 (2025) (10 pages) (DOI: 10.1063/5.0269620).
- O-11 Structural Evolution of Retinal Chromophore in Early Intermediates of Inward and Outward Proton-Pumping Rhodopsins
T. Urui, M. Mizuno, R. Abe-Yoshizumi, H. Kandori, and Y. Mizutani
J. Phys. Chem. B **129**(1), 41–51 (2025) (DOI: 10.1021/acs.jpcc.4c04793).
- O-12 Photothermal Energy Conversion by Heme in Cytochrome *c*₅₅₂: A Heme Protein-Based Molecular Heater
T. Watase, M. Mizuno, and Y. Mizutani
J. Phys. Chem. C **129**(1), 148–155 (2025) (DOI: 10.1021/acs.jpcc.4c07036).
- R-1 Harnessing Light the Retinal Way
Y. Mizutani
Nat. Chem. **17**(10), 1618 (2025) (DOI: 10.1038/s41557-025-01924-7).
- B-1* 新基礎化学実験法 2025
宮崎裕司(大阪大学化学教育研究会編, 執筆分担) A5, 144 頁
学術図書出版社(2025 年 2 月 10 日発行)。

M-1* センターだより 50 周年によせて

松尾隆祐

大阪大学低温センター50 周年記念誌 46–47 (2025).

M-2* 低温センターとの関わりと思い出

宮崎裕司

大阪大学低温センター50 周年記念誌 51 (2025).

M-3* 大阪大学低温センター50 周年のご祝辞 ～感謝と今後にむけて～

中澤康浩

大阪大学低温センター50 周年記念誌 28–29 (2025).