

List of Publications (Yasujiro Murata)

ORIGINAL PAPERS

- 259 Molecular CO₂ Storage: State of a Single-Molecule Gas (Front Cover)
Hashikawa, Y.; Sadai, S.; Murata, Y.
ACS Phys. Chem. Au **2024**, *4*, 143-147. DOI: 10.1021/acspchemau.3c00068
- 258 An Open-Cage Bis[60]fulleroid as Electron Transport Material for Tin Halide Perovskite Solar Cells (Inside front cover)
Liu, W.; Huang, G.; Chen, C.-Y.; Tan, T.; Fuyuki, H.; Hu, S.; Nakamura, Y.; Truong, M. A.; Murdey, R.; Hashikawa, Y.; Murata, Y.; Wakamiya, A.
Chem. Commun. **2024**, *60*, 2172-2175. DOI: 10.1039/D3CC05843C
- 257 Cobalt-Functionalized Open-[60]Fullerenes (Cover Art)
Hashikawa, Y.; Murata, Y.
Organometallics **2024**, *43*, 227-232. DOI: 10.1021/acs.organomet.3c00484
- 256 Open-[60]fullerenols with Water Adsorbed both Inside and Outside (Open Access)
Hashikawa, Y.; Sadai, S.; Ikemoto, Y.; Murata, Y. (Outside Back Cover)
Chem. Commun. **2024**, *60*, 1261-1264. DOI: 10.1039/D3CC05542F
- 255 Synthesis of Inter-[60]Fullerene Conjugates with Inherent Chirality (Editors' Highlights)
Hashikawa, Y.; Okamoto, S.; Murata, Y.
Nat. Commun. **2024**, *15*, 514 (7 pages). DOI: 10.1038/s41467-024-44834-x
- 254 Synthesis of an Open-Cage C₆₀ Derivative with a Double Stopper
Huang, G.; Hashikawa, Y.; Murata, Y.
ChemistrySelect **2023**, *8*, e20230488. DOI: 10.1002/slct.202304880
- 253 Construction of a 21-Membered-Ring Orifice on [60]Fullerene
Hashikawa, Y.; Sadai, S.; Murata, Y.
ChemPlusChem **2023**, *88*, e202300225 (7 pages). DOI: 10.1002/cplu.202300225
- 252 Synthesis of Hydrogen-Bonded Open-[60]Fullerenol Dimers (Cover Feature)
Hashikawa, Y.; Sadai, S.; Murata, Y.
ChemPlusChem **2023**, *88*, e202300136 (5 pages). DOI: 10.1002/cplu.202300136
- 251 CH₃CN@Open-C₆₀: An Effective Inner-Space Modification and Isotope Effect inside the Nano-Sized Flask (Cover Picture)
Huang, G.; Ide, Y.; Hashikawa, Y.; Hirose, T.; Murata, Y.
Chem. Eur. J. **2023**, *29*, e202301161 (7 pages). DOI: 10.1002/chem.202301161
- 250 Circularly Polarized Luminescence of Hetero[n]helicenes with 2,1,3-Thiadiazole Rings at Both Ends: Design of Magnetically-Allowed Electronic Transitions via Heteroatom Embedding
Zhang, Z.; Murata, Y.; Hirose, T.
Tetrahedron **2023**, *142*, 133514 (8 pages). DOI: 10.1016/j.tet.2023.133514

- 249 Synthesis of Open-[70]Fullerenes Bearing a Huge Orifice
Hashikawa, Y.; Sadai, S.; Murata, Y.
Chem. Commun. **2023**, 59, 7387-7390. DOI: 10.1039/D3CC01717F
- 248 Bilateral π -Extension of an Open-[60]Fullerene in a Helical Manner
Hashikawa, Y.; Sadai, S.; Murata, Y. (open access)
Chem. Commun. **2023**, 59, 6560-6563. DOI: 10.1039/D3CC00784G
- 247 π -Extended Open-[70]Fullerenes with a Fused Azaacene (Cover Picture)
Sadai, S.; Hashikawa, Y.; Murata, Y.
Org. Lett. **2023**, 25, 2815-2819. DOI: 10.1021/acs.orglett.3c00726
- 246 Open-[60]Fullerene-Aniline Conjugates with Intense Near-Infrared Absorption
Sadai, S.; Hashikawa, Y.; Murata, Y. (open access)
RSC Advances **2023**, 13, 14575-14579. DOI: 10.1039/d3ra02113k
- 245 C₂-Insertion into a Fullerene Orifice
Hashikawa, Y.; Murata, Y.
Chem. Commun. **2023**, 59, 1645-1648. DOI: 10.1039/d2cc06531b
- 244 Near-Infrared-Absorbing Chiral Open [60]Fullerenes
Hashikawa, Y.; Sadai, S.; Okamoto, S.; Murata, Y.
Angew. Chem. Int. Ed. **2023**, 62, e202215380 (7 pages). DOI: 10.1002/anie.202215380 and 10.1002/ange.202215380
- 243 Utilization of sym-Tetrazines as Guanidine Delivery Cycloaddition Reagents. An Experimental and Computational Study
Bris, A.; Murata, Y.; Hashikawa, Y.; Margetic, D.
J. Mol. Struct. **2023**, 1272, 134207. DOI: 10.1016/j.molstruc.2022.134207
- 242 π -Extended Fullerenes with a Reactant Inside
Hashikawa, Y.; Fujikawa, N.; Murata, Y.
J. Am. Chem. Soc. **2022**, 144, 23292-23296. DOI: 10.1021/jacs.2c12259
- 241 Phosphorus Ylides of Cage-Opened Sulphide [60]Fullerene Derivatives
Hashikawa, Y.; Fujikawa, N.; Okamoto, S.; Murata, Y.
Dalton Trans. **2022**, 51, 17804-17808. DOI: 10.1039/D2DT03214G
- 240 Chiral Open-[60]Fullerene Ligands with Giant Dissymmetry Factors
Hashikawa, Y.; Okamoto, S.; Sadai, S.; Murata, Y.
J. Am. Chem. Soc. **2022**, 144, 18829-18833. DOI: 10.1021/jacs.2c09556
- 239 Selective Addition of Aniline to a Cage-Opened Diketo Anhydride Derivative of C₆₀
Hashikawa, Y.; Sadai, S.; Li, J.; Okamoto, S.; Murata, Y.
Chem. Lett. **2022**, 51, 949-952. DOI: 10.1246/cl.220285
- 238 Consecutive Utilization of Mechanochemical and Microwave Methods for Synthesis of Boc-2-amino-quinazolin-4(3H)-ones and DFT Study of Mechanism 6p-Diazaelectrocyclization Process

(Cover Picture)

Antol, I.; Glasovac, Z.; Murata, Y.; Hashikawa, Y.; Margetic, D.

ChemistrySelect **2022**, 7, e202200633 (9 pages). DOI: 10.1002/slct.202200633

- 237 Aniline-Mediated Imination and Reduction of a Cage-Opened C₆₀ Derivative
Hashikawa, Y.; Murata, Y.
Asian J. Org. Chem. **2022**, 11, e202200357DOI (5 pages). DOI: 10.1002/ajoc.202200357
- 236 Amphiphilic gamma-Cyclodextrin-Fullerene Complexes with Photodynamic Activity
Miki, K.; Zhang, Z. D.; Kaneko, K.; Kakiuchi, Y.; Kojima, K.; Enomoto, A.; Oe, M.; Nogita, K.; Murata, Y.; Harada, H.; Ohe, K.
Mater. Adv. **2022**, 3, 312-317. DOI:10.1039/d1ma00743b
- 235 π -Backbonding on Group 9 Metal Complexes Bearing an η^2 -(H₂O@C₆₀) Ligand
Hashikawa, Y.; Kawasaki, H.; Murata, Y.
Organometallics **2022**, 41, 354-359. DOI: 10.1021/acs.organomet.1c00706
- 234 Cage-Opened C₆₀ Isomers with Different Reactivities
Zhang, S.; Hashikawa, Y.; Murata, Y.
Asian J. Org. Chem. **2022**, 11, e202100676 (4pages). DOI: 10.1002/ajoc.202100676
- 233 Hydrogenation of Cage-Opened C₆₀ Derivatives Mediated by Frustrated Lewis Pairs
Hashikawa, Y.; Murata, Y.
Org. Bioorg. Chem. **2022**, 20, 1000-1003. DOI: 10.1039/d1ob02316k
- 232 An H₂O₂ Molecule Stabilized inside Open-Cage C₆₀ Derivatives by a Hydroxy Stopper
Huang, G.; Hasegawa, S.; Hashikawa, Y.; Ide, Y.; Hirose, T.; Murata, Y.
Chem. Eur. J. **2022**, 28, e202103836 (5 pages). DOI: 10.1002/chem.202103836
- 231 *Ortho-Para* Fluctuation of Water Molecule in H₂O@C₆₀ Single Molecule Transistors
Du, S.; Hashikawa, Y.; Ito, H.; Hashimoto, K.; Murata, Y.; Hirayama, Y.; Hirakawa, K.
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- 230 Amino-Functionalized Cage-Opened C₆₀ Derivatives (Cover Picture)
Hashikawa, Y.; Sadai, S.; Murata, Y.
Org. Lett. **2021**, 23, 9586-9590. DOI: 10.1021/acs.orglett.1c03798
- 229 Reductive Decarbonylation of a Cage-Opened C₆₀ Derivative (Cover Picture)
Hashikawa, Y.; Sadai, S.; Murata, Y.
Org. Lett. **2021**, 23, 9495-9499. DOI: 10.1021/acs.orglett.1c03694
- 228 Synthesis and Oligomerization of CpM(CO)₂ (Cover Picture)
Hashikawa, Y.; Murata, Y.
ACS Omega **2021**, 6, 34137-34141. DOI: 10.1021/acsomega.1c05739
- 227 Water-Mediated Thermal Rearrangement of a Cage-Opened C₆₀ Derivative (Cover Feature)
Hashikawa, Y.; Murata, Y.
ChemPlusChem **2021**, 86, 1559-1562. DOI: 10.1002/cplu.202100421

- 226 An Androsterone-H₂@C₆₀ hybrid: Synthesis, Properties and Molecular Docking Simulations with SARS-Cov-2 (Cover Picture)
Suarez, M.; Makowski, K.; Lemos, R.; Almagro, L.; Rodriguez, H.; Herranz, M. A.; Molero, D.; Ortiz, O.; Mroto, E.; Albericio, F.; Murata, Y.; Martin, N.
ChemPlusChem **2021**, *86*, 972-981. DOI: 10.1002/cplu.202000770
- 225 Mechanism of 2,6-Dichloro-4,4'-bipyridine-Catalyzed Diboration of Pyrazines Involving a Bipyridine-Stabilized Boryl Radical (BCSJ Award, Cover Picture)
Ohmura, T.; Morimasa, Y.; Ichino, T.; Miyake, Y.; Murata, Y.; Suginome, M.; Tajima, K.; Taketsugu, T.; Maeda, S.
Bull. Chem. Soc. Jpn. **2021**, *94*, 1894-1902. DOI: 10.1246/bcsj.20210145
- 224 Cage-Expansion of Fullerenes
Zheng, S.; Hashikawa, Y.; Murata, Y.
J. Am. Chem. Soc. **2021**, *143*, 12450-12454. DOI: 10.1021/jacs.1c05778
- 223 Pressure-Induced Annulative Orifice Closure of a Cage-Opened C₆₀ Derivative
Hashikawa, Y.; Kizaki, K.; Murata, Y.
Chem. Commun. **2021**, *57*, 5322-5325. DOI: 10.1039/d1cc01662h
- 222 Photochemical Orifice Expansion of a Cage-Opened C₆₀ Derivative (Cover Picture)
Hashikawa, Y.; Hasegawa, S.; Murata, Y.
Org. Lett. **2021**, *23*, 3854-3858. DOI: 10.1021/acs.orglett.1c00990
- 221 Dynamics and Magnetic Properties of NO Molecules Encapsulated in Open-cage Fullerene Derivatives Evidenced by Low Temperature Heat Capacity
Horii, Y.; Suzuki, H.; Miyazaki, Y.; Nakano, M.; Hasegawa, S.; Hashikawa, Y.; Murata, Y.
Phys. Chem. Chem. Phys. **2021**, *23*, 10251-10256. DOI: 10.1039/d1cp00482d
- 220 Reactions of C₆₀ with Pyridazine and Phthalazine
Hashikawa, Y.; Li, H.; Murata, Y.
Chem. Eur. J. **2021**, *27*, 7507-7511. DOI: 10.1002/chem.202100711
- 219 Reactions on a 1,2-Dicarbonyl Moiety of a Fullerene Skeleton
Hashikawa, Y.; Li, J.; Okamoto, S.; Murata, Y.
Chem. Eur. J. **2021**, *27*, 7235-7238. DOI:10.1002/chem.202100640
- 218 Infrared spectroscopy of endohedral H₂O in C₆₀
Shugai, A.; Nagel, U.; Murata, Y.; Li, Y.; Mamone, S.; Krachmalnicoff, A.; Alom, S.; Whitby, R. J.; Levitt, M. H.; Room, T.
J. Phys. Chem. **2021**, *154*, 124311. DOI: 10.1063/5.0047350
- 217 Non-Classical Abramov Products Formed on Orifices of Cage-Opened C₆₀ Derivatives (Cover Feature)
Hashikawa, Y.; Okamoto, S.; Murata, Y.
Chem. Eur. J. **2021**, *27*, 4864-4868. DOI: 10.1002/chem.202004035
- 216 Precise Fixation of an NO Molecule inside Carbon Nanopores: A Long-Range Electron-Nuclear

Interaction

Hashikawa, Y.; Hasegawa, S.; Murata, Y.

Angew. Chem. Int. Ed. **2021**, *60*, 2866-2870 DOI: 10.1002/anie.202012538 and
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215 Doubly-Holed Fullerenes (Cover Picture)

Hashikawa, Y.; Fushino, T.; Murata, Y.

J. Am. Chem. Soc. **2020**, *142*, 20572-20576. DOI: 10.1021/jacs.0c10676

214 Cation Recognition on a Fullerene-Based Macrocyclic (Cover Picture)

Hashikawa, Y.; Murata, Y.

Chem. Sci. **2020**, *11*, 12428-12435. DOI: 10.1039/d0sc05280a

213 Synthesis of a Dihydroxylated Open-Cage [70]Fullerene by a Reductive Ring-Closure Reaction

Hashikawa, Y.; Shimizu, Y.; Murata, Y.

Org. Lett. **2020**, *22*, 8624-8628. DOI: 10.1021/acs.orglett.0c03216

212 An Orifice Design: Water Insertion into C₆₀

Hashikawa, Y.; Kizaki, T.; Hirose, T.; Murata, Y.

RSC Advances, **2020**, *10*, 40406-40410. DOI: 10.1039/d0ra09067k

211 EPR Study of NO radicals encaged in modified open C₆₀ Fullerenes

Dinse, K.-P.; Kato, T.; Hasegawa, S.; Hashikawa, Y.; Murata, Y.; Bittl, R.

Magn. Reson. **2020**, *1*, 197-207. DOI: 10.5194/mr-1-197-2020

210 Precise Synthesis of Double-Armed Polymers with Fullerene C₆₀ at the Junction for Controlled Architecture

Sakakibara, K.; Wakiuchi, A.; Murata, Y.; Tsujii, Y.

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209 Organophosphorus Zwitterions Engaged in a Conjugated Macrocyclic Orifice on a Fullerene Cage

Hashikawa, Y.; Okamoto, S.; Murata, Y.

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208 A Single H₂O Molecule inside Hydrophobic Carbon Nanocavities: Effect of Local Electrostatic Potential

Hashikawa, Y.; Murata, Y. *Chem. Lett.* **2020**, *49*, 244-247. DOI: 10.1246/cl.190874

207 How to Make Dense and Flat Perovskite Layers for >20% Efficient Solar Cells: Oriented, Crystalline Perovskite Intermediates and their Thermal Conversion

Ozaki, M.; Nakaike, Y.; Shimazaki, A.; Jung, M.; Maruyama, N.; Yakumaru, S.; Rafieh, A. I.; Ekanayake, P.; Saito, T.; Shimakawa, Y.; Sasamori, T.; Murata, Y.; Murdey, R.; Wakamiya, A.

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206 Phthalimide-Based Transparent Electron Transport Materials with Oriented-Amorphous Structure from Solution-Processed Precursor Films

Nakamura, T.; Shioya, N.; Hasegawa, T.; Murata, Y.; Murdey, R.; Wakamiya, A.

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- 205 A Purified, Solvent-Intercalated Precursor Complex for Wide Process Window Fabrication of Efficient Perovskite Solar Cells and Modules
Ozaki, M.; Shimazaki, A.; Jung, M.; Nakaïke, Y.; Maruyama, N.; Yakumaru, S.; Rafieh, A. I.; Sasamori, T.; Tokitoh, N.; Ekanayake, P.; Murata, Y.; Murdey, R.; Wakamiya, A.
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- 204 Propeller-Shaped Aluminum Complexes with an Azaperylene Core in the Ligands (Cover Picture, Special Issue "Organoaluminum Compounds")
Tsukao, M.; Hashikawa, Y.; Toyama, N.; Muraoka, M.; Murata, M.; Sasamori, T.; Wakamiya, A.; Murata, Y.
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- 203 H₂O/Olefinic- π Interaction inside a Carbon Nanocage (Cover Picture)
Hashikawa, Y.; Murata, Y.
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- 202 Tunable Single-Molecule Electronic Conductance of C₆₀ by Encapsulation
Fujii, S.; Cho, H.; Hashikawa, Y.; Nishino, T.; Murata, Y.; Kiguchi, M.
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- 201 Iodine-rich Mixed Composition Perovskites Optimised for Tin(IV) Oxide Transport Layers: How Starting Material Stability, Halide Ion Ratio, and Aging in Ambient Air Influence Solar Cell Performance
Ozaki, M.; Ishikura, Y.; Truong, M. A.; Liu, J.; Okada, I.; Tanabe, T.; Sekimoto, S.; Ohtsuki, T.; Murata, Y.; Murdey, R.; Wakamiya, A.
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- 200 Influence of Alkoxy Chain Length on the Properties of Two-Dimensionally Expanded Azulene Core-Based Hole-Transporting Materials for Efficient Perovskite Solar Cells (Cover Picture)
Truong, M. A.; Lee J.; Nakamura, T.; Seo, J.-Y.; Jung, M.; Ozaki, M.; Shimazaki, A.; Shioya, N.; Hasegawa, T.; Murata, Y.; Zakeeruddin, S. M.; Gratzel, M.; Murdey, R.; Wakamiya, A.
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- 199 Donor-Acceptor Polymers Containing Thiazole-Fused Benzothiadiazole Acceptor Units for Organic Solar Cells
Nakamura, T.; Arakawa, N.; Ishikura, Y.; Hori, M.; Satou, M.; Endo, M.; Masui, H.; Fuse, S.; Takahashi, T.; Murata, Y.; Murdey, R.; Wakamiya, A.
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- 198 Molecular Orientation Change in Naphthalene Diimide Thin Films Induced by Removal of Thermally Cleavable Substituents
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- 197 Rotational Motion and Nuclear-Spin Interconversion of H₂O Encapsulated in C₆₀ Appeared in the Low-Temperature Heat Capacity

- Suzuki, H.; Nakano, M.; Hashikawa, Y.; Murata, Y.
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- 196 Probing the Regioselectivity by Encapsulated H₂: Diels-Alder Reaction of a Cage-Opened C₆₀ Derivative with Anthracene
Hashikawa, Y.; Murata, Y.
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- 195 Mechanochemistry vs. Solution Growth: Striking Differences in Bench Stability of a Cimetidine Salt Based on Synthetic Method
Ayoub, G.; Strukil, V.; Fabian, L.; Mottillo, C.; Bao, H.; Murata, Y.; Moores, A.; Margetic, D.; Eckert-Maksic, M.; Friscic, T.
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- 194 Wavelength-Dependent Efficiency of Sequential Photooxygenation: C=C Bond Cleavage on Open-Cage C₆₀ Derivatives (Special Issue of ISNA-18)
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- 193 A Single but Hydrogen-Bonded Water Molecule Confined in an Anisotropic Subnanospace
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- 192 High Bending Durability of Efficient Flexible Perovskite Solar Cells Using Metal Oxide Electron Transport Layer
Yang, F.; Liu, J.; Lim, H. E.; Ishikura, Y.; Shinokita, K.; Miyauchi, Y.; Wakamiya, A.; Murata, Y.; Matsuda, K.
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- 191 Near- and Mid-IR Gas-Phase Absorption Spectra of H₂@C₆₀⁺-He
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- 190 NIR-Absorbing Dye Based on BF₂-Bridged Azafulvene Dimer as a Strong Electron-Accepting Unit
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- 189 Lead-Free Solar Cells based on Tin Halide Perovskite Films with High Coverage and Improved Aggregation
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- 188 Construction of a Metal-Free Electron Spin System by Encapsulation of an NO Molecule inside an Open-Cage Fullerene C₆₀ Derivative
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- 187 Efficient Synthesis and Properties of [1]Benzothieno[3,2-b]thieno[2,3-d]furans and [1]Benzothieno[3,2-b]thieno[2,3-d]thiophenes
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- 186 Probing the Interaction between the Encapsulated Water Molecule and the Fullerene Cages in $\text{H}_2\text{O}@\text{C}_{60}^-$ and $\text{H}_2\text{O}@\text{C}_{59}\text{N}^-$
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- 185 Roles of Polymer Layer in Enhanced Photovoltaic Performance of Perovskite Solar Cells via Interface Engineering
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- 183 Facile Access to Azafullerenyl Cation C_{59}N^+ and Specific Interaction with Entrapped Molecules
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- 182 High-Resolution Photoelectron Imaging of Cryogenically-Cooled C_{59}N^- and $(\text{C}_{59}\text{N})_2^{2-}$ Azafullerene Anions
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- 181 Palladium-Catalyzed Cyclization: Regioselectivity and Structure of Arene-Fused C_{60} Derivatives
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- 176 Single Molecular Junction Study on H₂O@C₆₀: H₂O is "Electrostatically Isolated"
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