

# PAPERS FEATURING VCD



BROUGHT TO YOU BY



*Characterization Experts: Chirality & Biologics*

5730 CORPORATE WAY, STE. 220, WEST  
PALM BEACH, FL 33407 | 561-625-0133  
INFO@BIOTOOLS.US | [BIOTOOLS.US](https://www.biotoools.us)

1. **Absolute Configuration Determination with Electronically Enhanced Vibrational Circular Dichroism**  
Sapova, M., Kumar, C., Ashtari-Jafari, S., & Buma, W. J. (2025). *Angewandte Chemie International Edition*, e17979. <https://doi.org/10.1002/anie.202517979>
2. **Mid-infrared chiral planar metasurface thermal emitters based on quasiguided modes**  
Cao, W., & Han, Z. (2025). *Optics Express*, 33(10), 21750. <https://doi.org/10.1364/oe.562772>
3. **Mid-infrared giant optical chirality induced by multipole degeneracy in a diamond metasurface**  
Wang, H., Chen, S., Liu, X., Yu, Y., Xiao, T., & Shan, C. (2025). *Optics Letters*, 50(4), 1381. <https://doi.org/10.1364/ol.550219>
4. **Vibrational circular dichroism beyond solutions**  
Krupová, M., & Andrushchenko, V. (2025). *Vibrational circular dichroism beyond solutions. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 340, 125839. <https://doi.org/10.1016/j.saa.2025.125839>
5. **Nano Letters article — Liquid-Phase Exfoliated 2D Nanomaterials for Enhanced Vibrational Circular Dichroism of Chiral Molecules**  
Ballance, A. T., Tohgha, U. N., Morren, A., Susner, M. A., Shumaker-Parry, J. S., & Stevenson, P. R. (2025). Liquid-phase exfoliated 2D nanomaterials for enhanced vibrational circular dichroism of chiral molecules. *Nano Letters*, 25(39), 14363–14370. <https://doi.org/10.1021/acs.nanolett.5c03583>
6. **Fusè, Longhi, et al. — The Role of Anharmonicity in the HC\*D Chromophore**  
Fusè, M., Longhi, G., Mazzeo, G., Bloino, J., & Abbate, S. (2025). *The role of anharmonicity in the HCD chromophore in vibrational circular dichroism spectra and optical rotation data\**. *The Journal of Physical Chemistry A*. <https://doi.org/10.1021/acs.jpca.5c03064>
7. **Vibrational Circular Dichroism Spectra of Atomically-Precise Metal Clusters**  
Alshalalfeh, M., Dong, X., Parshotam, S., Li, G., Cheeseman, J. R., Zang, S., & Xu, Y.. (2025). *Vibrational circular dichroism spectra of atomically-precise metal clusters: Unveiling conformational structures and mechanism of VCD enhancement via full models. Small*. <https://doi.org/10.1002/smll.202504293>
8. **Modeling infrared and vibrational circular dichroism spectra of complex systems: the DFTB/fluctuating charges route**  
Lafiosca, P., Gómez, S., Melega, L., Giovannini, T., & Cappelli, C. (2025). *Physical Chemistry Chemical Physics*, 27(21), 11198–11209. <https://doi.org/10.1039/d5cp00228a>

**9. Revisiting the “Cluster-In-Solvent” approach for computational spectroscopy: the vibrational circular dichroism as a test case**

Arra, S., Daidone, I., & Aschi, M. (2025). Journal of Computational Chemistry, 46(17), e70144. <https://doi.org/10.1002/jcc.70144>

**10. Highly Elliptic Circular Dichroism of Copper Aspartate One-Dimensional Nanostructures across the Ultraviolet to Terahertz Ranges**

Choi, W. J., Kim, J., Hwang, M., Lim, C. M., Park, B. C., Emre, A., Lee, S. H., & Kotov, N. A. (2025). Nano Letters, 25(19), 7699–7706. <https://doi.org/10.1021/acs.nanolett.5c00411>

**11. Calculation of vibrational circular dichroism spectra employing nuclear velocity perturbation or magnetic field perturbation theory using an Atomic-Orbital-Based linear response approach**

Kumar, R., & Lubner, S. (2025). The Journal of Physical Chemistry A, 129(19), 4325–4336. <https://doi.org/10.1021/acs.jpca.5c01344>

**12. Assisting calculation of vibrational circular dichroism spectra by molecular tailoring approach**

Sharma, S., Khire, S. S., Gadre, S. R., & Sahu, N. (2025). The Journal of Chemical Physics, 162(24). <https://doi.org/10.1063/5.0271469>

**13. Preparing an Eremophilanoid from Cacalia Species and Assigning its Absolute Configuration**

González-Morales, B. L., Fuentes-Figueroa, M. Á., & Burgueño-Tapia, E. (2025). Natural Product Communications, 20(6). <https://doi.org/10.1177/1934578x251353303>

**14. Tuning linear dichroism/birefringence (LDLB) contributions in VCD spectra of tartaric acid-TPPS 4 porphyrin films**

Mazzeo, G., Fusè, M., Abbate, S., Zagami, R., Castriciano, M. A., Romeo, A., Scolaro, L. M., & Longhi, G. (2025). Physical Chemistry Chemical Physics, 27(43), 23245–23256. <https://doi.org/10.1039/d5cp03069b>

**15. SPECTrOIBIS: Automated data processing for multiconformer quantum chemical spectroscopic calculations**

Bulcock, B. W., Chooi, Y., & Flematti, G. R. (2025). Journal of Natural Products, 88(2), 495–501. <https://doi.org/10.1021/acs.jnatprod.4c01321>

**16. Natural and Magnetic Circular Dichroism From the Infrared to the UV of a Hetero[4]helicene Radical Cation**

Fusè, M., Lupi, M., Machalska, E., Mazzeo, G., Abbate, S., Bloino, J., Viglianisi, C., Menichetti, S., & Longhi, G. (2025). Chemistry - an Asian Journal, 20(10), e202401752. <https://doi.org/10.1002/asia.202401752>

- 17. Racemic assembly of octahedral metallomesogens via  $\Delta$ - $\Lambda$  chiral interaction: detection of novel VCD signals in Quasi-Racemate**  
Yoshida, H., Nishimoto, K., Yuge, H., Mandai, T., Yoshida, S., Sato, S., Sato, H., Hara, M., Watanabe, G., & Yoshida, J. (2025). *Small*, 21(13), e2500564.  
<https://doi.org/10.1002/sml.202500564>
- 18. Spectroscopic constants of chiral isomers of acetamide**  
Amos, R. D., & Kobayashi, R. (2025). *The Journal of Physical Chemistry A*, 129(43), 9908–9912. <https://doi.org/10.1021/acs.jpca.5c04503>
- 19. ViSCa: A computational toolbox for vibrational spectral calculations—Application to sum frequency generation spectroscopy of proteins**  
Saeed, K. H., Strunge, K., Mertig, R., Roeters, S. J., & Weidner, T. (2025). *The Journal of Chemical Physics*, 163(14). <https://doi.org/10.1063/5.0296008>
- 20. Chiral generation in achiral lower diamondoid triamantane through prochiral halogen substitution**  
R, A., Hu, J., & M, U. M. (2025). *Journal of Molecular Modeling*, 31(7), 190.  
<https://doi.org/10.1007/s00894-025-06407-7>
- 21. Computational and experimental studies on Double H-Bonded Zwitterion Dimer model for L-2-Aminoadipic acid**  
Kotyagol, M., Tonannavar, J., & Tonannavar, J. (2025). *Asian Journal of Chemistry*, 37(6), 1431–1448. <https://doi.org/10.14233/ajchem.2025.33831>
- 22. Induced chirality and vibrational optical activity in an Ionic-Liquid anion**  
Frömbgen, T., Drysch, K., Tassaing, T., Buffeteau, T., Holloczki, O., & Kirchner, B. (2025). *Angewandte Chemie International Edition*, 64(28), e202502885.  
<https://doi.org/10.1002/anie.202502885>
- 23. Simulating Magnetic Field-Driven Real-Time Quantum Dynamics using London Nuclear–Electronic Orbital Approach**  
Tang, D., Liu, A., Culpitt, T., Hammes-Schiffer, S., & Li, X. (2025). *Journal of Chemical Theory and Computation*, 21(9), 4357–4364. <https://doi.org/10.1021/acs.jctc.5c00273>
- 24. A Chiral Organic Radical Ferroelectric with Magnetic Circular Dichroism**  
Weng, Y., Qin, Y., Ai, Y., Chen, X., Song, X., Zhang, H., & Liao, W. (2025). *Angewandte Chemie International Edition*, 64(39), e202515806.  
<https://doi.org/10.1002/anie.202515806>
- 25. Induced circularly polarized luminescence of dynamically racemic luminophores assisted by formation of helical phase via Self-Assembly of chiral block copolymers**

Kuo, C., Shao, S., Puneet, P., Yashima, E., & Ho, R. (2025). *Macromolecules*, 58(15), 8308–8315. <https://doi.org/10.1021/acs.macromol.5c01122>

**26. Alcohol-Adaptive folding of rotatable peptides toward tunable chiroptical B-Sheet materials**

Zhou, X., Cao, Z., Hao, A., & Xing, P. (2025). *Chemistry of Materials*, 37(16), 6366–6376. <https://doi.org/10.1021/acs.chemmater.5c01519>

**27. Deconstruction of Desacetamidocolchicine's B Ring Reveals a Class 3 Atropisomeric AC Ring with Tubulin Binding Properties**

Bejcek, L. P., Eli, O. S., Kapkayeva, D. M., Nafie, J., Beutler, J. A., Gallicchio, E., Sackett, D. L., & Murelli, R. P. (2025). *The Journal of Organic Chemistry*, 90(22), 7246–7258. <https://doi.org/10.1021/acs.joc.5c00284>

**28. Vibrational circular dichroism of plasmonic nanostructures embedding chiral drugs**

Adhikary, R., Venturi, M., Salvitti, G., Sahoo, A., Ferrante, C., Benassi, P., Di Stasio, F., Toma, A., Altug, H., Aschi, M., & Marini, A. (2025). *Scientific Reports*, 15(1), 13116. <https://doi.org/10.1038/s41598-025-97383-8>

**29. Homochiral metal–organic framework membranes synthesized using a nonstochastic chiral bias for enhanced enantioselective separation.**

Li, B., Feng, Y., Zhou, D., Yang, M., Li, D., Fu, J., Ben, T., & Zhang, S. (2025). *Journal of Materials Chemistry A*, 13(12), 8375–8384. <https://doi.org/10.1039/d4ta08001g>

**30. How Important Are Dimers for Interpreting the Chiroptical Properties of Carboxylic Acids? A Case Study with [5]-Ladderanoic Acid**

Puente, A. R., & Polavarapu, P. L. (2025). *The Journal of Physical Chemistry A*, 129(43), 9871–9882. <https://doi.org/10.1021/acs.jpca.5c04282>

**31. Construction of a vibrational circular dichroism instrument equipped with a thermoelectrically cooled detector for prolonged measurements**

Sato, H., Shimizu, M., Watanabe, K., & Koshoubu, J. (2025). *Chirality*, 37(1), e70019. <https://doi.org/10.1002/chir.70019>

**32. Photoluminescence and switchable dielectric properties of (R/S-3-hydroxypiperidinium)MnCl<sub>3</sub> with high-temperature phase transitions**

Yu, Y., She, J., Weng, Y., Yu, Y., Lu, D., Zhou, Y., Lv, H., & Ai, Y. (2025). *Journal of Solid State Chemistry*, 348, 125407. <https://doi.org/10.1016/j.jssc.2025.125407>

**33. Synthetic, computational, and experimental studies of a Class 3 atropisomeric A-Naphthyl tropone**

Agyemang, N. B., Nafie, J., Biscoe, M. R., & Murelli, R. P. (2025). *The Journal of Organic Chemistry*, 90(32), 11501–11509. <https://doi.org/10.1021/acs.joc.5c00992>

- 34. Stereo-Differentiating Asymmetric RH(I)-Catalyzed Pauson–Khand Reaction: A DFT-Informed Approach to thapsigargin Stereoisomers.**  
Haghighi, F., Jesikiewicz, L. T., Stahl, C. E., Nafie, J., Ortega-Vega, A., Liu, P., & Brummond, K. M. (2024). *Journal of the American Chemical Society*, 147(1), 498–509. <https://doi.org/10.1021/jacs.4c11661>
- 35. Chiroptical signal amplification in amorphous siloxane network by asymmetric ring distortion**  
Okazaki, Y., Buffeteau, T., Ryu, N., Yoshida, K., Jo, J., Hachiya, K., Sagawa, T., & Oda, R. (2025). *Journal of the American Chemical Society*, 147(31), 27552–27560. <https://doi.org/10.1021/jacs.5c05168>
- 36. Biocatalytic stereodivergent synthesis of substituted Tetrahydro-Benzo-(Oxa, TH1a, and DI)-Azepines**  
Manna, T., Das, P., Rabbani, A., Beyer, F., Merten, C., & Husain, S. M. (2025). *Chemistry - a European Journal*, 31(19), e202404537. <https://doi.org/10.1002/chem.202404537>
- 37. Time-Domain Quantum Cascade Laser-Based Vibrational Circular Dichroism Spectroscopy with Linear Dichroism Monitoring**  
Ho, R., Yeh, K., & Bhargava, R. (2025). *Analytical Chemistry*. <https://doi.org/10.1021/acs.analchem.5c05477>
- 38. Rapid vibrational circular dichroism spectroscopy via synchronized Photoelastic Modulator-Quantum Cascade Laser integration**  
Norvick, V. A., Le, M., Modesitt, E., Myers, O., Akrami, R., & Phal, Y. (2025). *ACS Measurement Science Au*, 5(5), 729–739. <https://doi.org/10.1021/acsmeasuresciau.5c00069>
- 39. Left–right asymmetry in the microstructure of the hindwings of European hornet revealed by scanning electron microscopy and microscopic vibrational circular dichroism**  
Inoué, S., Sato, H., & Yamagishi, A. (2025). Left–right asymmetry in the microstructure of the hindwings of European hornet revealed by scanning electron microscopy and microscopic vibrational circular dichroism. *Physical Chemistry Chemical Physics*, 27(27), 14565–14571. <https://doi.org/10.1039/d5cp01013f>
- 40. Enantiomeric organic amine-borane adduct crystals with room-temperature multi-channel switches**  
Yu, Z., Li, G., Xu, Z., Long, L., Qin, Y., Du, Z., & Wang, Z. (2025). *Chinese Journal of Structural Chemistry*, 44(11), 100715. <https://doi.org/10.1016/j.cjsc.2025.100715>
- 41. Single-Handed Helical Polymer-Based Polycarboxylate with Achiral Triarylphosphine Pendants as Chiral Catalysts for Asymmetric Cross-Coupling Reactions in Pure Water**

Kamiya, N., Kuroda, T., Nagata, Y., Yamamoto, T., & Suginome, M. (2025). Journal of the American Chemical Society, 147(10), 8534–8547. <https://doi.org/10.1021/jacs.4c16952>

**42. Designing Chiral Organometallic Nanosheets with Room-Temperature Multiferroicity and Topological Nodes**

Zhao, J., Liu, Q., Ma, S., Wu, W., Wang, H., Gao, P., Xiong, L., Li, X., Li, X., & Wang, X. (2025). Nano Letters, 25(4), 1480–1486. <https://doi.org/10.1021/acs.nanolett.4c05408>

**43. Single-Step insertion of organic sulfur into a Fe<sub>6</sub>C carbide carbonyl cluster, including the natural amino acid L -Cysteine: vibrational circular dichroism and chirality transfer**

Forti, F., Pellegrini, A., Cesari, C., Femoni, C., Iapalucci, M. C., Mancinelli, M., & Zacchini, S. (2025). Angewandte Chemie International Edition, 64(38), e202513702. <https://doi.org/10.1002/anie.202513702>

**44. Pseudo-Dichroism: nanophotonic induction of chiroptical activity in symmetric molecular systems**

Tabouillot, V., Landry, J., González-Jiménez, M., Gadegaard, N., Johannessen, C., Wynne, K., Blanch, E. W., & Kadodwala, M. (2025). Advanced Optical Materials, 13(24). <https://doi.org/10.1002/adom.202501152>

**45. Becoming fully circular facilitated by PAT**

Eifert, T., Gerlach, M., Dahlmann, K., Lendl, B., Rädle, M., & Jaeger, M. (2025). Analytical and Bioanalytical Chemistry, 417(25), 5587–5596. <https://doi.org/10.1007/s00216-025-05977-y>

**46. Chiroptical Spectroscopy, Theoretical Calculations, and Symmetry of a Chiral Transition Metal Complex with Low-Lying Electronic States**

Alshalalfeh, M., & Xu, Y. (2025). Molecules, 30(4), 804. <https://doi.org/10.3390/molecules30040804>

**47. Control of dynamic chirality in Donor-Acceptor fluorophores**

Coehlo, M., Frédéric, L., Poulard, L., Ferdi, N., Estaque, L., Desmarchelier, A., Clavier, G., Dognon, J., Favereau, L., Giorgi, M., Naubron, J., & Pieters, G. (2024). Angewandte Chemie International Edition, 64(2), e202414490. <https://doi.org/10.1002/anie.202414490>

**48. Photochemical rearrangements of a [2.2]paracyclophane-based nitrene studied by vibrational CD spectroscopy**

Beyer, F., & Merten, C. (2025). Chemical Communications, 61(65), 12203–12206. <https://doi.org/10.1039/d5cc03164h>

**49. Chiral separation and spectroscopic characterization of mefloquine analogues**

Dobšíková, K., Kohout, M., & Setnička, V. (2024). Spectrochimica Acta Part a Molecular and Biomolecular Spectroscopy, 324, 124940. <https://doi.org/10.1016/j.saa.2024.124940>

**50. Tianeptide: enantiomeric separations, structural assignment, and biological interactions**

Aslani, S., Nafie, J., Wahab, M. F., & Armstrong, D. W. (2025). Talanta, 294, 128197. <https://doi.org/10.1016/j.talanta.2025.128197>

**51. Stereoselective Synthesis of Axially Chiral 5,5'-Linked bis-1-Arylisochromans with Antibacterial Activity**

Czenke, Z., Mándi, A., Fedics, G. M., Barta, R. A., Kiss-Szikszai, A., Kurucz-Szabados, A., Timári, I., Bényei, A., Király, S. B., Ostorházi, E., Zhang, C., Kicsák, M., & Kurtán, T. (2025). International Journal of Molecular Sciences, 26(16), 7777. <https://doi.org/10.3390/ijms26167777>

**52. Black-Box Simulations of Anharmonic Vibrational Chiroptical Spectra: Problems with Property Third Derivatives and the Solvent**

Yang, Q., Andrushchenko, V., Hudecová, J., Kapitán, J., Bloino, J., Bowker, I., & Bouř, P. (2025). Journal of Chemical Theory and Computation, 21(20), 10489–10502. <https://doi.org/10.1021/acs.jctc.5c01132>

**53. Actions and Interactions of Mirror-Image Cyclodextrins**

Armstrong, D. W., Aslani, S., Nafie, J., Wu, Y., & Stoddart, J. F. (2024). Actions and Interactions of Mirror-Image Cyclodextrins. JACS Au, 5(2), 693–701. <https://doi.org/10.1021/jacsau.4c00962>

**54. Chirality Expression from Hierarchical Foldamer-Mesoscopic Helical Silica Frameworks**

Pranee, P., Hess, R., Boudier, A., Anfar, Z., De Souza Lima Mendes, M., Merlet, E., Yospanya, W., Pouget, E., Nlate, S., Olivier, C., Buffeteau, T., Ferrand, Y., & Oda, R. (2025). Materials Chemistry Frontiers. <https://doi.org/10.1039/d4qm01140f>

**55. Recovering Exact Vibrational Energies within a Phase Space Electronic Structure Framework**

Wu, X., Bian, X., Rawlinson, J., Littlejohn, R. G., & Subotnik, J. E. (2025). Journal of Chemical Theory and Computation, 21(19), 9470–9482. <https://doi.org/10.1021/acs.jctc.5c00956>

**56. Synthesis of a regioisomer of Syn-Cryptophane-B: crystal structure and study of its chiroptical properties**

Brotin, T., Daugey, N., Denis-Quanquin, S., Jeanneau, E., Vanthuyne, N., & Buffeteau, T. (2025). The Journal of Organic Chemistry, 90(25), 8693–8702. <https://doi.org/10.1021/acs.joc.5c00755>

- 57. Porphyrin J-aggregates as a probe for chiral impurities as demonstrated by their symmetry breaking by confinement in montmorillonite clay**  
 De Souza Lima Mendes, M., Duroux, G., Boudier, A., Pranee, P., Okazaki, Y., Buffeteau, T., Massip, S., Nlate, S., Oda, R., Hillard, E., & Pouget, E. (2024). *Nanoscale*, 17(3), 1334–1341. <https://doi.org/10.1039/d4nr03728f>
- 58. Chiral Fluorine Engineering in Amine Molecular Design: Toward High-Tc Multifunctional Rare-Earth Hybrid Double Perovskites**  
 Sun, X., Li, Y., Yin, X., Wei, Z., & Cai, H. (2025). *Small*, 21(35), e2505444. <https://doi.org/10.1002/smll.202505444>
- 59. Investigation and application of the plasmonic enhancement effect from inverse plasmonic nanostructures on chiral light-matter interaction**  
 Mayerhöfer, T., & Huang, J. (2025). DFG Project Report. <https://doi.org/10.26434/chemrxiv-2025-srf97>
- 60. Exploring Excited-State Electronic Structure, Spectroscopy, and Nonadiabatic Dynamics with CP2K's Multifaceted Approach**  
 Hanasaki, K., De Jong, T. F., Komarov, K., Kumar, R., Mališ, M., Mattiat, J., Hernandez-Segura, L. I., Schreder, L., Sinyavskiy, A., & Luber, S. (2025). *The Journal of Physical Chemistry A*, 129(32), 7313–7344. <https://doi.org/10.1021/acs.jpca.5c02969>
- 61. A pair of chiral organic–inorganic hybrid tin compounds showing reversible phase transition and enhanced SHG properties**  
 Jiang, T., Zou, M., Wu, Y., Zhou, J., Yin, X., Guo, W., Wei, Z., & Cai, H. (2025). *Dalton Transactions*, 54(38), 14559–14565. <https://doi.org/10.1039/d5dt01839k>
- 62. A VCD study on micro-solvation and self-aggregation of N-acetyl tryptophan propylamide**  
 Tan, D., Stoianova, V., & Merten, C. (2025). *Physical Chemistry Chemical Physics*, 27(38), 20794–20801. <https://doi.org/10.1039/d5cp02728d>
- 63. Testosterone derivatives: Their conformational preferences studied by chiroptical spectroscopy and density functional theory.**  
 Králík, F., & Setnička, V. (2025). *Journal of Molecular Structure*, 1328, 141367. <https://doi.org/10.1016/j.molstruc.2025.141367>
- 64. Ordered aggregates of Fmoc-Diphenylalanine at alkaline pH as a precursor of fibril formation and peptide gelation**  
 Hughes, E., O'Neill, N. S., & Schweitzer-Stenner, R. (2024). *The Journal of Physical Chemistry B*, 129(1), 260–272. <https://doi.org/10.1021/acs.jpcb.4c06796>

- 65. Chiral Silica with a Helical Structure Formed Using Polymethacrylate-Functionalized Polyhedral Oligomeric Silsesquioxane with Hepta-Cysteine as Template**  
 Morii, S., Yu, H., Li, S., Sakai, H., Iwao, S., Miyoshi, Y., Shinoda, T., Mine, M., Ohta, N., Sekiguchi, H., Kaneko, Y., Hayakawa, T., Fujii, S., Nakamura, Y., Li, M., & Hirai, T. (2025). *Macromolecules*. <https://doi.org/10.1021/acs.macromol.5c00304>
- 66. Edge-directed rapid chiral assembly of gold nanorods by 2D hexagonal nanosheets of helical poly(phenylacetylene)s and the synergistic communication of circularly polarized luminescence**  
 Yu, P., Zhao, W., Huang, Y., Zeng, H., Wan, X., & Zhang, J. (2025). *Journal of Materials Chemistry C*, 13(15), 7502–7508. <https://doi.org/10.1039/d5tc00312a>
- 67. Enantioselective synthesis of A-Trifluoromethyl tert-Alcohols and amines via Organocatalyst-Mediated Aldol and Mannich reactions**  
 Hayashi, Y., Odaira, H., Tomikawa, M., Mori, N., Taniguchi, T., & Monde, K. (2025). *Asian Journal of Organic Chemistry*, 14(4). <https://doi.org/10.1002/ajoc.202500035>
- 68. Use of Aldehyde–Alkyne–Amine couplings to generate medicinal Chemistry-Relevant linkers**  
 McGown, A., Vetma, V., Crepin, D., Lin, Y., Adcock, C., Craigon, C., Nafie, J., Von Emloh, D., Sutton, L., Bailey, K., Edmunds, L., Sharma, M., Wilden, J. D., Coles, S. J., Tizzard, G. J., Farnaby, W., Ciulli, A., Kostakis, G. E., & Spencer, J. (2025). *ACS Medicinal Chemistry Letters*, 16(2), 278–284. <https://doi.org/10.1021/acsmedchemlett.4c00531>
- 69. Chiroptical spectroscopy complemented by quantum chemical calculations accurately predicts the absolute configuration of P-chirogenic compounds**  
 Pazderková, M., Králík, F., Kocek, H., Tichotová, M. C., Tučková, L., Bednárová, L., & Procházková, E. (2025). *Spectrochimica Acta Part a Molecular and Biomolecular Spectroscopy*, 330, 125674. <https://doi.org/10.1016/j.saa.2024.125674>
- 70. A novel sesquiterpene alkaloid from Zanthoxylum piasezkii as a promising antifeedant against Tribolium castaneum**  
 Zhang, W., Liu, C., Zhang, J., Li, M., You, C., Yu, X., Li, D., Geng, Z., & Pang, X. (2025). *Industrial Crops and Products*, 236, 122053. <https://doi.org/10.1016/j.indcrop.2025.122053>
- 71. A basis-free phase space electronic Hamiltonian that recovers beyond Born–Oppenheimer electronic momentum and current density**  
 Tao, Z., Qiu, T., Bian, X., Duston, T., Bradbury, N., & Subotnik, J. E. (2025). *The Journal of Chemical Physics*, 162(14). <https://doi.org/10.1063/5.0260731>
- 72. Discovery of a fluorinated macrobicyclic antibiotic through chemical synthesis**

Tresco, B. I. C., Wu, K. J. Y., Ramkissoon, A., Aleksandrova, E. V., Purdy, M., See, D. N. Y., Liu, R. Y., Polikanov, Y. S., & Myers, A. G. (2025). *Nature Chemistry*, 17(4), 582–589. <https://doi.org/10.1038/s41557-025-01738-7>

**73. Enhancing real-time cell culture process monitoring through the integration of advanced machine learning techniques: A comparative analysis of Raman and capacitance spectroscopies**

Xu, F., Pinto, N., Zhou, G., & Ahuja, S. (2025). *Biotechnology Progress*, 41(3), e70013. <https://doi.org/10.1002/btpr.70013>

**74. Total synthesis of the membrane spanning tetraether lipid BRGDGT IA and elucidation of its stereochemical configuration**

Mahapatra, S., Kopf, S. H., Halamka, T., Merten, C., Drost, D. A., & Minnaard, A. J. (2025). *Chemistry - a European Journal*, 31(25), e202500702. <https://doi.org/10.1002/chem.202500702>

**75. Effect of bonding characteristics of major constituents of mineral filler-based glass fiber reinforced with epoxy composites**

Lokesh, K. S., Ramachandra, C. G., Kumar, T. P., Kanti, P. K., Paramasivam, P., & Ayanie, A. G. (2025). *Scientific Reports*, 15(1), 20474. <https://doi.org/10.1038/s41598-025-04354-0>

**76. Synthesis and characterization of ( R )- and ( S )-1,1'-BI-2-Naphtholato coordinated Gallium(III) porphyrins and their chiroptical properties**

Islam, S., Mia, M. J., Tauchi, D., Hasegawa, M., Fusè, M., Mazzeo, G., Longhi, G., Abbate, S., Yamashita, K., & Sugiura, K. (2025). *European Journal of Inorganic Chemistry*, 28(32). <https://doi.org/10.1002/ejic.202500434>

**77. Chiral Self-Assembly of Zinc and Magnesium Porphyrins with Enantiopure Cyclohexanohemicucurbiturils in Solution and in Solid State**

Šakarašvili, M., Truong, K., Ustrnul, L., Konrad, N., Siilak, K., Burankova, T., Kuroda, R., Senge, M. O., Borovkov, V., Ward, J. S., Rissanen, K., & Aav, R. (2025). *Inorganic Chemistry*. <https://doi.org/10.1021/acs.inorgchem.5c04969>

**78. Deacetylative Protocol to Obtain Diastereoselectively  $\alpha$ -Fluoro- $\beta$ -amino-oxindoles via a Mannich-Type Reaction using Aliphatic N-tert-Butanesulfinyl Imines**

Blanco-López, E., Sirvent, A., Lulli, T., Merino, P., Nájera, C., Yus, M., Foubelo, F., De Gracia Retamosa, M., & Sansano, J. M. (2025). *Synthesis*, 57(21), 3197–3204. <https://doi.org/10.1055/a-2644-2389>

**79. Rotenoids from the Roots of *Vicia faba* L. (Fabaceae): Structural Characterization, Cytotoxic Effects, and Molecular Docking**

Sipoloni, V. M., Silva-Silva, J. V., Ferreira, E. G., Lee, E. Y., Batista, J. M., Junior, Uemi, M., De Medeiros, L. S., Jimenez, P. C., & Veiga, T. a. M. (2025). Chemistry & Biodiversity, 22(10), e01091. <https://doi.org/10.1002/cbdv.202501091>

**80. New indole-diterpenoids with protein tyrosine phosphatase inhibitory activity from a marine-derived fungus *Penicillium janthinellum***

Li, L., Qin, X., Qin, Y., Wang, T., Liu, X., Wang, X., Liu, Z., You, Z., & Cao, F. (2024). Journal of Molecular Structure, 1322, 140428. <https://doi.org/10.1016/j.molstruc.2024.140428>

**81. Spectroscopic investigation of drug potential towards neuronal firing and analysis of molecular docking on (N-(diaminomethylidene)-2-(2,6-dichlorophenyl) acetamide) using DFT theoretical data evidence**

Suganthi, M., Sambasivam, R., Ramalingam, S., & Aarthi, R. (2024). Journal of Molecular Structure, 1320, 139548. <https://doi.org/10.1016/j.molstruc.2024.139548>

**82. Two new polyketides and a new  $\gamma$ -lactone-derived furanone from a soil fungus *Trichoderma spirale* BHM2–5**

Jang, J. S., Han, J. S., Cho, Y. B., Dang, V. Q., Lee, D., Lee, M. K., Lee, J. W., & Hwang, B. Y. (2025). Fitoterapia, 186, 106854. <https://doi.org/10.1016/j.fitote.2025.106854>

**83. Nuclear-Spin-Dependent Chirogenesis: Hidden Symmetry Breaking of Poly(di-n-butylsilane) in n-Alkanes**

Fujiki, M., Mori, T., Koe, J. R., & Abdellatif, M. M. (2025). Symmetry, 17(3), 433. <https://doi.org/10.3390/sym17030433>