

Jonathan Clayden — Publications (to Dec 2022)

313. *Dynamic Kinetic Resolution and Dynamic Kinetic Asymmetric Transformation of Atropisomers*

Jordan Berreur, Beatrice S. L. Collins and Jonathan Clayden
in *Science of Synthesis: Dynamic Kinetic Resolution (DKR) and Dynamic Kinetic Asymmetric Transformations (DYKAT)*, Bäckvall, J.-E., Ed.; Thieme: Stuttgart 2023, **1**, 441–483

312. *Supramolecular interactions between ethylene-bridged oligoureas: nanorings and chains formed by cooperative positive allostery*

David P. Tilly, Matej Žabka, Inigo Vitorica-Yrezabal, Hazel A. Sparkes, Natalie Pridmore and Jonathan Clayden
Chem. Sci. 2022, in press

311. *Biocatalytic Enantioselective Synthesis of Atropisomers*

Olivia F. B. Watts, Jordan Berreur, Beatrice S. L. Collins and Jonathan Clayden
Acc. Chem. Res. 2022, in press

310. *De novo design of discrete, stable 310-helix peptide assemblies*

Prasun Kumar, Neil G. Paterson, Jonathan Clayden and Derek N. Woolfson,
Nature 2022, **607**, 387-392

309. *A Chemically Fuelled Molecular Automaton Displaying Programmed Migration of Zn²⁺ Between Alternative Binding Sites*

Matthew M. Wootten, Sofja Tshepelevitsh, Ivo Leito and Jonathan Clayden,
Chem. Eur. J. in press

308. *Hydrogen Bond Chains in Foldamers and Dynamic Foldamers*

David T. J. Morris, Jonathan Clayden,
in *Spectroscopy and Computation of Hydrogen-Bonded Systems*, ed M. J. Wojcik and Y. Ozaki, Wiley-VCH, 2022

307. *C(sp³)-Arylation by Conformationally Accelerated Intramolecular Nucleophilic Aromatic Substitution (S_NAr)*

Steven M. Wales, Rakesh K. Saunthwal, and Jonathan Clayden,
Acc. Chem. Res. 2022, **55**, 1731-1747

306. *Reversible capture and release of a ligand mediated by a long-range relayed polarity switch in a urea oligomer*

Steven M. Wales, David T. J. Morris and Jonathan Clayden,
J. Am. Chem. Soc. 2022, **144**, 2841-2846

305. *Inducing a pH-dependent conformational response by competitive binding to Zn²⁺ of a series of chiral ligands of disparate basicity*

Matthew M. Wootten, Bryden A. F. Le Bailly, Sofja Tshepelevitsh, Ivo Leito and Jonathan Clayden,
Chem. Sci. 2022, **13**, 2258-2269

304. *Enantioselective one-carbon expansion of aromatic rings by simultaneous formation and chromoselective irradiation of a transient coloured enolate*

Rakesh K. Saunthwal, James Mortimer, Andrew J. Orr-Ewing and Jonathan Clayden,
Chem. Sci. 2022, **13**, 2079-2085

303. *Identifying palladium culprits in amine catalysis*

Mickaël Avanthay, Robin B. Bedford, Callum S. Begg, Dietrich Böse, Jonathan Clayden, Sean A. Davis, Jean-Charles Eloi, Georgy P. Goryunov, Ingo V. Hartung, Joseph Heeley, Kirill A. Khaikin, Matthew O. Kitching, Johannes Krieger, Pavel S. Kulyabin, Alastair J. J. Lennox, Roberto Nolla-Saltiel, Natalie E. Pridmore, Benjamin J. S. Rowsell, Hazel A. Sparkes, Dmitry V. Uborsky, Alexander Z. Voskoboynikov, Mark P. Walsh and Harry J. Wilkinson,
Nature Catal. 2021, **4**, 994-998

302. *Binding of L-kynurenine to X. campestris tryptophan 2,3-dioxygenase*

Jaswir Basran, Elizabeth S. Booth, Laura P. Campbell, Sarah J. Thackray, Mehul H. Jesani, Jonathan Clayden, Peter C. E. Moody, Christopher G. Mowat, Hanna Kwon, Emma L. Raven
J. Inorg. Biochem. 2021, **225**, 111604.

301. *'Reverse Biomimetic' Synthesis of L-Arogenate and its Stabilized Analogues from L-Tyrosine*

Louise Eagling, Daniel J. Leonard, Maria Schwarz, Iñaki Urruzuno, Grace Boden, J. Steven Wailes, John W. Ward, and Jonathan Clayden,
Chem. Sci. 2021, **12**, 11394-111398.

300. *A Molecular Communication Channel Consisting of a Single Reversible Chain of Hydrogen Bonds in a Conformationally Flexible Oligomer*

David T. J. Morris, Steven M. Wales, David Tilly, Elliot H. E. Farrar, Matthew N. Grayson, John W. Ward, Jonathan Clayden,
Chem. 2021, **7**, 2460-2472.

299. *Scalable synthesis and coupling of quaternary α -arylated amino acids: α -aryl substituents are tolerated in α -helical peptides*

Daniel J. Leonard, Francis Zieleniewski, Isabelle Wellhöfer, Emily G. Baker, John W. Ward, Derek N. Woolfson, and Jonathan Clayden,
Chem. Sci., 2021, **12**, 9386-9390.

298. *N-Methyl Allylic Amines from Allylic Alcohols by Mitsunobu Substitution using N-Boc Ethyl Oxamate*

Branca C. van Veen, Steven M. Wales, and Jonathan Clayden,
J. Org. Chem. 2021, **86**, 8538-8543

297. *Triarylmethanes and their Medium-Ring Analogues by Unactivated Truce-Smiles Rearrangement of Benzanilides*

Roman Abrams, Mehul H. Jesani, Alex Browning and Jonathan Clayden,
Angew. Chem. Int. Ed. 2021, **60**, 11272-11277.

296. *Light-mediated control of activity in a photosensitive foldamer that mimics an esterase*

Matteo Pollastrini, Giulia Marafon, Jonathan Clayden, and Alessandro Moretto
Chem. Commun. 2021, **57**, 2269-2272.

295. *Insight into mechanism of action and peptide-membrane interactions of Aib-rich peptides: multi-technique experimental and theoretical analysis*

Maria Giovanna Lizio, Mario Campana, Matteo De Poli, Damien F. Jefferies, William Cullen, Valery Andrushchenko, Nikola P. Chmel, Petr Bouř, Syma Khalid, Jonathan Clayden, Ewan Blanch, Alison Rodger, and Simon J. Webb,
ChemBioChem, 2021, **22**, 1656-1667.

294. *Hydantoin-bridged medium ring scaffolds by migratory insertion of urea-tethered nitrile anions into aromatic C–N bonds*

Makenzie J. Millward, Emily Ellis, John W. Ward and Jonathan Clayden,
Chem. Sci. 2021, **12**, 2091-2096.

293. *Automated solid-phase concatenation of Aib residues to form long, water-soluble, helical peptides*

Francis Zieleniewski, Derek N. Woolfson and Jonathan Clayden,
Chem. Commun. 2020, **56**, 12049-12052.

292. *Atropisomerism in diarylamines: structural requirements and mechanisms of conformational interconversion*

Romain Costil, Alistair J. Sterling, Fernanda Duarte and Jonathan Clayden,
Angew. Chem. Int. Ed. 2020, **59**, 18670-18678

291. *Switchable foldamer ion channels with antibacterial activity*

Anna D. Peters, Stefan Borsley, Flavio della Sala, Dominic F. Cairns-Gibson, Marios Leonidou, Jonathan Clayden, George F. S. Whitehead, Inigo Vitorica-Yrzebal, Eriko Takano, John Burthem, Scott L. Cockroft and Simon J. Webb,
Chem. Sci. 2020, **11**, 7023-7030.

290. *Photocatalytic Difunctionalization of Vinyl Ureas by Radical Addition Polar Truce-Smiles Rearrangement Cascades*

Roman Abrams and Jonathan Clayden,
Angew. Chem. Int. Ed. 2020, **59**, 11600-11606.

289. *Molecular Recognition by Zn(II)-Capped Dynamic Foldamers*

Natasha Eccles, Flavio della Sala, Bryden A. F. Le Bailly, George F. S. Whitehead, Jonathan Clayden and Simon J. Webb,
Chem. Open 2020, **9**, 338.

288. *An Aliphatic Bischler-Napieralski reaction: Dihydropyridones by Cyclocarbonylation of 3-Allylimidazolidin-4-ones*

Mostafa M. Amer, Olatz Olaizola, Jennifer Carter, Hossay Abas, and Jonathan Clayden,
Org. Lett. 2020, **22**, 253.

287. *Stuart Warren: 24 Dec 1938 – 22 Mar 2020*

Varinder K. Aggarwal, Susan K. Armstrong, Lorenzo Caggiano, Kelly Chibale, Jonathan Clayden, Iain Coldham, Nicholas Greeves, Richard C. Hartley, Julian G. Knight, Nikolai Kuhnert, Helen J. Mitchell, Adam Nelson, Peter O'Brien, Stephen P. Thomas and Paul Wyatt
Org. Biomol. Chem. 2020, **18**, 7236-7237 [Obituary]

286. *Fluorine and amide groups together at last*

Jonathan Clayden

Nature 2019, **573**, 37-38 [News and Views article]

285. *Remote conformational responses to enantiomeric excess in carboxylate-binding dynamic foldamers*

Natasha Eccles, Bryden A. F. Le Bailly, Flavio della Sala, Iñigo J. Vitorica-Yrezabal, Jonathan Clayden and Simon J. Webb,

Chem. Commun. 2019, **55**, 9331-9334.

284. *Amino acid-derived trans-N-chloroformylimidazolidinones: scalable, stereoselective synthesis, structure, and utility*

Mostafa M. Amer, Hossay Abas, Daniel J. Leonard, John W. Ward and Jonathan Clayden

J. Org. Chem. 2019, **84**, 7199-7206.

283. *Extended diethylglycine homopeptides formed by desulfurization of their tetrahydrothiopyran analogues*

Marta De Zotti and Jonathan Clayden,

Org. Lett. 2019, **21**, 2209-2212.

282. *N-Chloroformylimidazolidinone Enolates as 1,3-Dipolar Reagents for the Stereoselective Synthesis of 3,4-Dihydroisoquinolones*

Hossay Abas, Mostafa M. Amer, Olatz Olaizola and Jonathan Clayden,

Org. Lett. 2019, **21**, 1908-1911.

281. *Connective Synthesis of 5,5-Disubstituted Hydantoins by Tandem α -Amination and α -Arylation of Silyl Ketene Acetals*

Rakesh K. Saunthwal, Matthew T. Cornall, Roman Abrams, John W. Ward and Jonathan Clayden,

Chem. Sci. 2019, **10**, 3408-3412.

280. *Asymmetric and Geometry-selective α -Alkenylation of α -Amino Acids*

Hossay Abas, Josep Mas-Roselló, Mostafa M. Amer, Derek J. Durand, Robin R. Groleau, Natalie Fey and Jonathan Clayden,

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279. *Chemoenzymatic synthesis of substituted azepanes by sequential biocatalytic reduction and organolithium-mediated rearrangement*

Wojciech Zawodny, Sarah L. Montgomery, James R. Marshall, James D. Finnigan, Nicholas J. Turner and Jonathan Clayden,

J. Am. Chem. Soc. 2018, **140**, 17872-17877.

278. *Substituted dihydroisoquinolinones by iodide-promoted cyclocarbonylation of aromatic α -amino acids*

Mostafa M. Amer, Ana C. Carrasco, Daniel J. Leonard, John W. Ward and Jonathan Clayden,

Org. Lett. 2018, **20**, 7977-7981.

277. *Enantioselectively functionalised phenytoin derivatives by diastereoselective intramolecular arylation of lithiated α -amino nitriles*

Josep Mas-Roselló, Mary Okoh and Jonathan Clayden,

Chem. Commun. 2018, **54**, 10985-10988.

276. *N,N'-Disuccinimidyl carbonate*

Edwin C. Davison, Arun K. Ghosh, Nagaswamy Kumaragurubaran, David T. J. Morris, Jonathan Clayden,

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275. *Asymmetric α -Arylation of Amino Acids*

Daniel J. Leonard, John W. Ward and Jonathan Clayden,

Nature 2018, **562**, 105-109

274. *Transition Metal-Free Cycloamination of Prenyl Carbamates and Ureas Promoted by Aryldiazonium Salts*
Roman Abrams, Quentin Lefebvre and Jonathan Clayden,
Angew. Chemie Int. Ed. 2018, **57**, 13587-13591.
273. *Polycyclic indoline derivatives by dearomatizing anionic cyclization of indole and tryptamine-derived ureas*
Jessica E. Hill, Quentin Lefebvre, Laura A. Fraser and Jonathan Clayden,
Org. Lett. 2018, **20**, 5770-5773.
272. *Bis-pyrene probes of foldamer conformation in solution and in phospholipid bilayers*
Francis G. A. Lister, Natasha Eccles, Sarah J. Pike, Robert A. Brown, George F. S. Whitehead, James Raftery, Simon J. Webb and Jonathan Clayden,
Chem. Sci. 2018, **9**, 6860-6870.
271. *Optically-Active Vibrational Spectroscopy of α -Aminoisobutyric Acid Foldamers in Organic Solvents and Phospholipid Bilayers*
Maria Giovanna Lizio, Valery Andrushchenko, Sarah J. Pike, Anna D. Peters, George F. S. Whitehead, Iñigo J. Vitorica-Yrezabal, Shaun T. Mutter, Jonathan Clayden, Petr Bouř, Ewan W. Blanch, and Simon J. Webb,
Chem. Eur. J. 2018, **24**, 9399-9408.
270. *α -Methyl phenylglycines by asymmetric α -arylation of alanine and their effect on the conformational preference of helical Aib foldamers*
Romain Costil, Fernando Fernández-Nieto, Rachel C. Atkinson and Jonathan Clayden
Org. Biomol. Chem. Org. Biomol. Chem. 2018, **16**, 2757-2761.
269. *Ring expansion and re-contraction for the synthesis of 1-aryl tetrahydroisoquinolines and tetrahydrobenzazepines from readily available heterocyclic precursors*
Jessica E. Hill, Johnathan V. Matlock, Quentin Lefebvre, Katie G. Cooper and Jonathan Clayden,
Angew. Chem. Int. Ed. 2018, **57**, 5788-5791.
268. *Competing hydrogen-bond polarities in a dynamic oligourea foldamer: a molecular spring torsion balance*
Romina Wechsel, Matej Žabka, John W. Ward and Jonathan Clayden,
J. Am. Chem. Soc. 2018, **140**, 3528-3531
267. *The Role of Terminal Functionality in the Membrane and Antibacterial Activity of Peptaibol-Mimetic Aib Foldamers*
Catherine Adam, Anna D. Peters, M. Giovanna Lizio, George F. S. Whitehead, James Cooper, Scott L. Cockroft, Jonathan Clayden and Simon J. Webb,
Chem. Eur. J. 2018, **24**, 2249-2256.
266. *Medium-ring analogues of dibenzodiazepines by conformationally induced Smiles ring expansion*
Romain Costil, Quentin Lefebvre, and Jonathan Clayden,
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265. *Dibenzazepinyl ureas as dual NMR and CD probes of helical screw-sense preference in conformationally equilibrating dynamic foldamers*
Vincent Diemer, Julien Maury, Bryden A. F. Le Bailly, Simon J. Webb, Jonathan Clayden,
Chem Commun. 2017, **53**, 10768-10771 [Special Issue on *Chemosensors and Molecular Logic*].
264. *Heavily Substituted Atropisomeric Diarylamines by Unactivated Smiles Rearrangement of N-Aryl Anthranilamides*
Romain Costil, Harvey J. A. Dale, Natalie Fey, George Whitcombe, Johnathan V. Matlock and Jonathan Clayden,
Angew. Chem. Int. Ed. 2017, **56**, 12533-12537.
263. *Geometry-retentive C-alkenylation of lithiated α -aminonitriles: quaternary α -alkenyl amino acids and hydantoins*
Josep Mas-Roselló, Shuji Hachisu and Jonathan Clayden,
Angew. Chem. Int. Ed. 2017, **56**, 10750-10754.
262. *Signal transduction in oligoamide foldamers by selective non-covalent binding of chiral phosphates at a urea binding site*
Katharina Gratzer, Vincent Diemer and Jonathan Clayden,
Org. Biomol. Chem., 2017, **15**, 3585-3589.
261. *Host in Translation*
Jonathan Clayden
Nature Nanotechnology, 2017, **12**, 403-404 [News and views article].

260. *A tendril perversion in a helical oligomer: trapping and characterizing a mobile screw-sense reversal*
Michael Tomsett, Irene Maffucci, Bryden A. F. Le Bailly, Liam Byrne, Stefan M. Bijvoets, M. Giovanna Lizio, James Raftery, Craig P. Butts, Simon J. Webb, Alessandro Contini and Jonathan Clayden,
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259. *Ligand-modulated conformational switching in a fully synthetic membrane-bound receptor*
Francis G. A. Lister, Bryden A. F. Le Bailly, Simon J. Webb and Jonathan Clayden,
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258. *Vinylation intramoléculaire de carbanions nucléophiliques par les N-acylbenzomorpholines comme vinylurées et vinylcarbamates masqués / Intramolecular Vinylation of Carbanions Using N-Acyl Benzomorpholines as Masked Vinylureas and Vinylcarbamates*
Brian P. Corbet, Johnathan V. Matlock, Josep Mas Roselló and Jonathan Clayden,
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Julien Maury, Wojciech Zawodny and Jonathan Clayden,
Org. Lett. 2017, **19**, 472-475.
256. *Biocatalytic Dynamic Kinetic Resolution for the Synthesis of Atropisomeric Biaryl N-Oxide Lewis Base Catalysts*
Samantha Staniland, Ralph W. Adams, Joseph J. W. McDouall, Irene Maffucci, Alessandro Contini, Damian Grainger, Nicholas J. Turner, Jonathan Clayden,
Angew. Chemie. Int. Ed., 2016, **55**, 10755-10759.
255. *Medium Ring Nitrogen Heterocycles by Migratory Ring Expansion of Metallated Ureas*
Jessica E. Hall, Johnathan V. Matlock, John W. Ward, Katharine V. Gray, Jonathan Clayden,
Angew. Chemie. Int. Ed., 2016, **55**, 11153-11157 (VIP paper).
254. *Helical foldamers incorporating photoswitchable residues for light-mediated modulation of conformational preference*
Daniela Mazzier, Marco Crisma, Matteo De Poli, Giulia Marafon, Cristina Peggion, Jonathan Clayden and Alessandro Moretto
J. Am. Chem. Soc. 2016, **138**, 8007-8018.
253. *The meso helix: symmetry and symmetry-breaking in dynamic oligoureia foldamers with reversible hydrogen-bond polarity*
Romina Wechsel, James Raftery, Dominique Cavagnat, Gilles Guichard and Jonathan Clayden
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252. *No turning back for motorized molecules*
Jonathan Clayden,
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251. *Dynamic Foldamer Chemistry*
Bryden A. F. Le Bailly and Jonathan Clayden,
Chem. Commun. 2016, **52**, 4852-4863.
250. *Conformational photoswitching of a synthetic peptide foldamer bound within a phospholipid bilayer*
Matteo De Poli, Wojciech Zawodny, Ophélie Quinonero, Mark Lorch, Simon J. Webb and Jonathan Clayden,
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249. *Substituent effects on axial chirality in 1-aryl-3,4-dihydroisoquinolines: controlling the rate of bond rotation*
Josep Mas Roselló, Samantha Staniland, Nicholas J. Turner and Jonathan Clayden,
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248. *Length-dependent formation of transmembrane pores by 3_{10} helical Aib foldamers*
Jennifer E. Jones, Vincent Diemer, Catherine Adam, James Raftery, Rebecca E. Ruscoe, Jason Sengel, Mark I. Wallace, Antoine Bader, Scott L. Cockroft, Jonathan Clayden and Simon J. Webb,
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247. *Refoldable foldamers: global conformational switching by deletion or insertion of a single hydrogen bond*
Bryden A. F. Le Bailly, Liam Byrne and Jonathan Clayden,
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Irene Maffucci, Jonathan Clayden and Alessandro Contini,
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244. *Helical peptaibol mimics are better ionophores when racemic than when enantiopure*

Sarah J. Pike, Jennifer E. Jones, James Raftery, Jonathan Clayden, and Simon J. Webb
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243. *Palladium-catalysed C-arylation of amino acid derived hydantoins*

Fernando Fernández-Nieto, Josep Mas Roselló, Simone Lenoir, Simon Hardy and Jonathan Clayden
Org. Lett. 2015, **17**, 3838-3841.

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Julien Maury, Bryden A. F. Le Bailly, James Raftery and Jonathan Clayden
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Rachel C. Atkinson, Fernando Fernández-Nieto, Josep Mas Roselló and Jonathan Clayden
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240. *Conformational switching of a foldamer in a multi-component system by pH-filtered selection between competing non-covalent interactions*

Julien Brioche, Sarah J. Pike, Sofja Tshepelevitsh, Ivo Leito, Gareth A. Morris, Simon J. Webb, and Jonathan Clayden,
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Liam Byrne, Jordi Solà and Jonathan Clayden
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Nadia Fleary-Roberts, Gilles Lemièrre and Jonathan Clayden,
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Michael B. Tait, Sam Butterworth, and Jonathan Clayden
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236. *Flaws in foldamers: conformational uniformity and signal decay in achiral helical peptide oligomers*

Bryden A. F. Le Bailly, Liam Byrne, Vincent Diemer, Mohammadali Foroozandeh, Gareth A. Morris, and Jonathan Clayden
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Benjamin M. Day, Joseph J. W. McDouall, Jonathan Clayden, and Richard A. Layfield
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Fernando Fernández-Nieto and Jonathan Clayden
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Daniele Castagnolo, Leonardo Degennaro, Renzo Luisi, and Jonathan Clayden
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Sarah J. Pike, Thomas Boddaert, James Raftery, Simon J. Webb and Jonathan Clayden
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Irene Maffucci, Sara Pellegrino, Jonathan Clayden and Alessandro Contini
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Hatice Berber, Pedro Lameiras, Clément Denhez, Cyril Antheaume and Jonathan Clayden,
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Jonathan Clayden,
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Gaëlle Mingat, Paul MacLellan, Marju Laars and Jonathan Clayden,
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