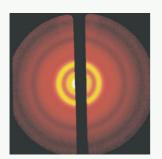


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2189

this journal also appear in the Chemical Biology Virtual Journal: w.rsc.org/chembiol

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Chemistry and biology in the new age

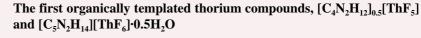
Nina Hall

Looking back at the visionary work of Ahmed Zewail in probing the motion of atoms at the femtosecond level, and looking forward to his work in the realm of molecular complexity, using ultrafast election diffraction to 'watch' reactions.

Cyclic molecular materials based on $[M_2O_2S_2]^{2+}$ cores (M = Mo or W)

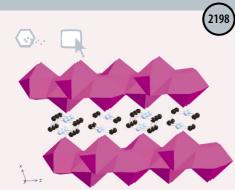
Emmanuel Cadot and Francis Sécheresse

The self condensation of the $[M_2O_2S_2]^{2+}$ oxothio-fragment produces an extended family of cyclic molecular materials. The resulting cycles, differing by their size and shape, exhibit a cationic open cavity, which can interact with small anionic molecules, such as phosphates, dicarboxylates and metalates. The cyclic architecture is flexible and self-adaptable to the nature of the encapsulated substrate.

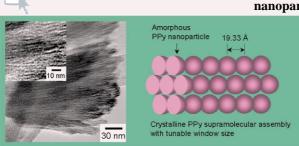


Jong-Young Kim, Alexander J. Norquist and Dermot O'Hare*

Organically templated thorium compounds were synthesized for the first time under hydrothermal conditions using amine templates; the piperazine containing compound consists of 2-D layers, while the 2-methylpiperazine phase contains unprecedented 1-D chains of face-sharing ThF₉ polyhedra.



COMMUNICATIONS



Fe(II)OH

 H_2O_2

Fe(II)

[Fe(III)(Ox)₀₌₁₋₃]

2200

2202

HO. + H.C

2204

Novel crystalline supramolecular assemblies of amorphous polypyrrole nanoparticles through surfactant templating

Jyongsik Jang* and Joon Hak Oh

A lamellar-structured crystalline polypyrrole (PPy) supramolecular assembly was prepared by surfactant templating. Regularly linked amorphous PPy nanoparticles with tunable window sizes could play the role of crystalline lattices in the supramolecular assembly.

Abatement of oxalates catalyzed by Fe-silica structured surfaces *via* cyclic carboxylate intermediates in photo-Fenton reactions

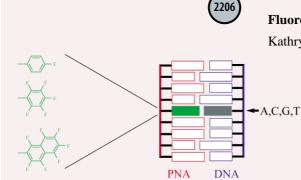
Anna Bozzi, Tatiana Yuranova, J. Mielczarski, A. Lopez and J. Kiwi

Novel silica/Fe structured fabrics were observed to degrade oxalates only under light irradiation showing the formation and disappearance of Fe-carboxylates and the concomitant recycling of the resulting Fe-ions back to the structured catalyst surface.

Synthesis of the first 2,3-dihydro-1,2,3-azadiphosphete complex

E. Ionescu, P. G. Jones and R. Streubel*

Synthesis of the first 2,3-dihydro-1,2,3-azadiphosphete complex was achieved by heating a solution of a 2*H*-azaphosphirene complex.



W(CO)₅

 $R = CH(SiMe_3)_2$

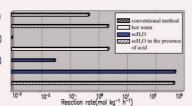
Fluoroaromatic universal bases in peptide nucleic acids

Kathryn A. Frey and Stephen A. Woski*

Fluoroaromatic peptide nucleic acid residues were found to possess little base discrimination when incorporated into PNA·DNA double helices.

Innovation in a chemical reaction process using a supercritical water microreaction system: environmentally friendly production of ϵ -caprolactam

7.69 m H₂SO₄(383 K, 0.1 MPo) high Silica MFI zeolite(623 K, 0.1 MPo) hot water (523 K, 40 MPo) hot water μ-reaction(573 K, 40 MPo) scH₂O (673 K, 40 MPo) scH₂O μ-reaction(673 K, 40 MPo) H₂SO₄ scH₂Oμ-reaction(648 K, 40 MPo)

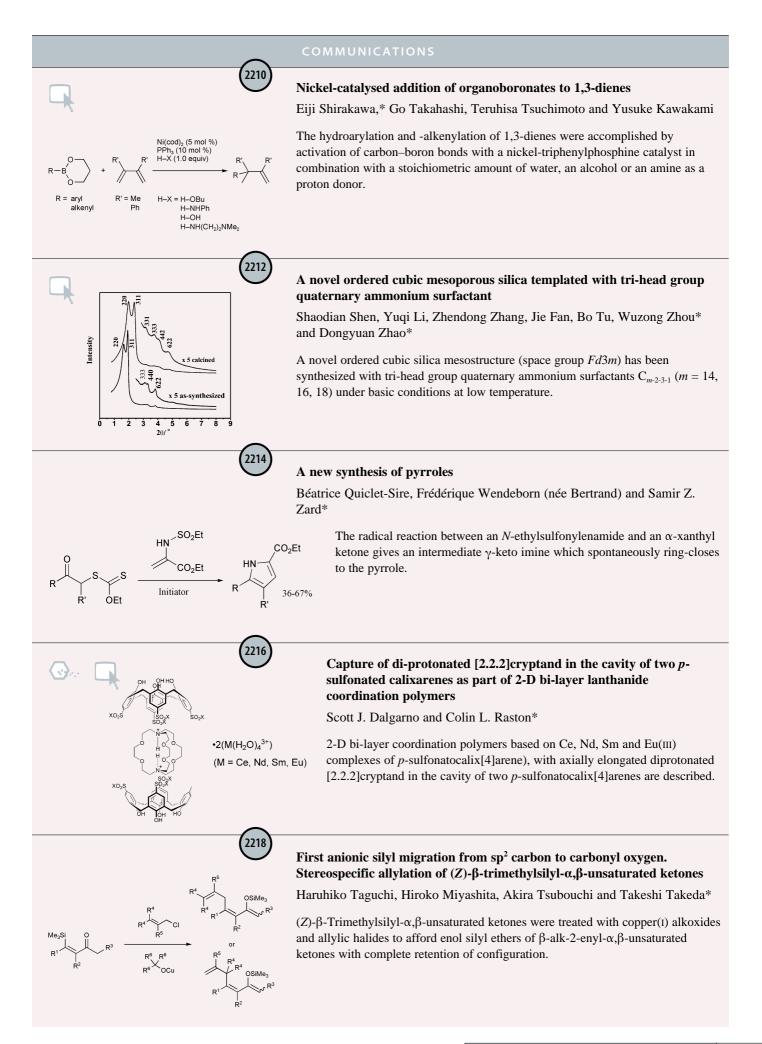


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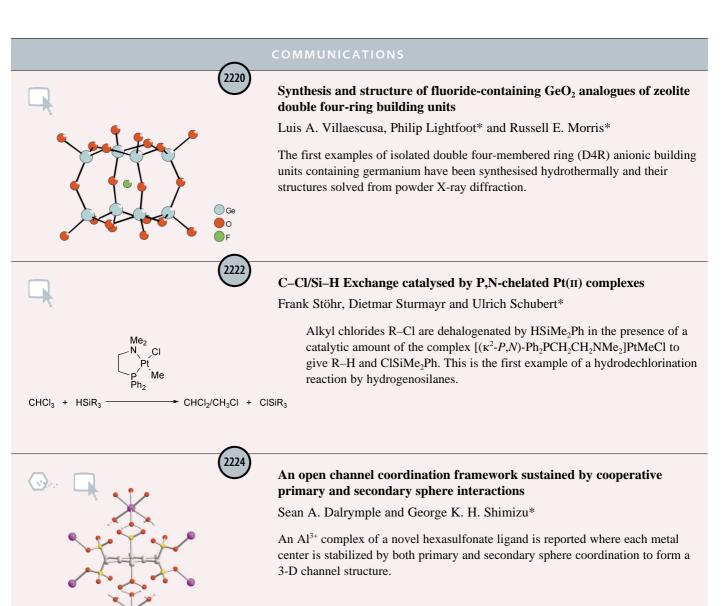
Yutaka Ikushima,* Kiyotaka Hatakeda, Masahiro Sato, Osamu Sato and Masahiko Arai

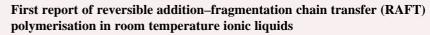
The scH₂O μ -reaction system achieves nearly 100% selectivity in satisfactory yield for ϵ -caprolactam production.

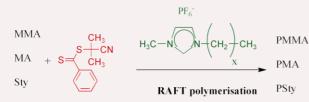
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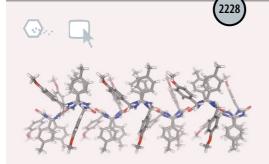




2226

Sébastien Perrier, Thomas P. Davis,* Adrian J. Carmichael and David M. Haddleton

Efficient living radical polymerisation *via* the reversible addition–fragmentation chain transfer (RAFT) process is reported for the first time in ionic liquids for styrene, methyl methacrylate and methyl acrylate monomers.

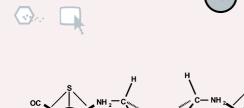


New supramolecular organization for a glycoluril: chiral hydrogenbonded ribbons

Darren W. Johnson, Liam C. Palmer, Fraser Hof, Peter M. Iovine and Julius Rebek Jr.*

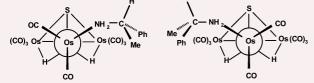
Severe twisting of the bridgehead phenyl rings in a series of glycolurils produces chiral hydrogen-bonded ribbons in the crystalline state. Complementary DFT and NMR studies analyze the nature of this twist.

COMMUNICATIONS



Slow epimerization of stereochemically rigid diastereomers of the equatorially substituted cluster $[Os_3H_2(\mu_3-S)(CO)_8\{(S)-PhCHMeNH_2\}]$

Antony J. Deeming,* Caroline S. Forth, Graeme Hogarth, David Markham, Jade O. Prince and Jonathan W. Steed



223

OXe

2236

2238

65%

Turnstile rotation is suppressed in the equatorially substituted cluster $[Os_3(\mu-H)_2(\mu_3-S)(CO)_8\{(S)-PhCHMeNH_2\}]$. Remarkably the two diastereomers shown do not interconvert at room temperature and epimerize only slowly at 90 °C.

Experimental evidence for the existence of non-*exo*-anomeric conformations in branched oligosaccharides: the neomycin-B case

Juan Luis Asensio,* Ana Hidalgo, Igor Cuesta, Carlos Gonzalez, Javier Cañada, Cristina Vicent, Jose Luis Chiara, Gabriel Cuevas and Jesus Jimenez-Barbero

In neomycin B, a branched oligosaccharide antibiotic, for the first time in natural sugars, a large amount of non-*exo*-anomeric conformation is experimentally detected, in solution. Contacts between non-vicinal sugar units lead to an enhanced flexibility of the ribose glycosidic torsion ϕ .

First determination of the absolute stereochemistry of a naturally occurring 1,1'-biphenanthrene, (-)-blestriarene C, and its unexpected photoracemization

Tetsutaro Hattori,* Yuhi Shimazumi, Osamu Yamabe, Eiji Koshiishi and Sotaro Miyano*

A naturally occurring 1,1'-biphenanthrene, blestriarene C, was prepared and its absolute stereochemistry was determined to be S_a -(-) by an empirical method, during which the compound was found to undergo rapid photoracemization even under ambient light exposure.

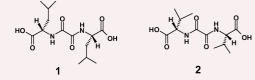
A novel fully conjugated phenanthroline-appended phthalocyanine: synthesis and characterisation

Julia Rusanova, Melanie Pilkington* and Silvio Decurtins

The synthesis and characterisation of a novel fully conjugated, tetrasubstituted H_2Pc , containing four peripheral diimine binding sites, fused *via* pyrazine bridges to a metal free phthalocyanine core is described.

Gels with exceptional thermal stability formed by bis(amino acid) oxalamide gelators and solvents of low polarity

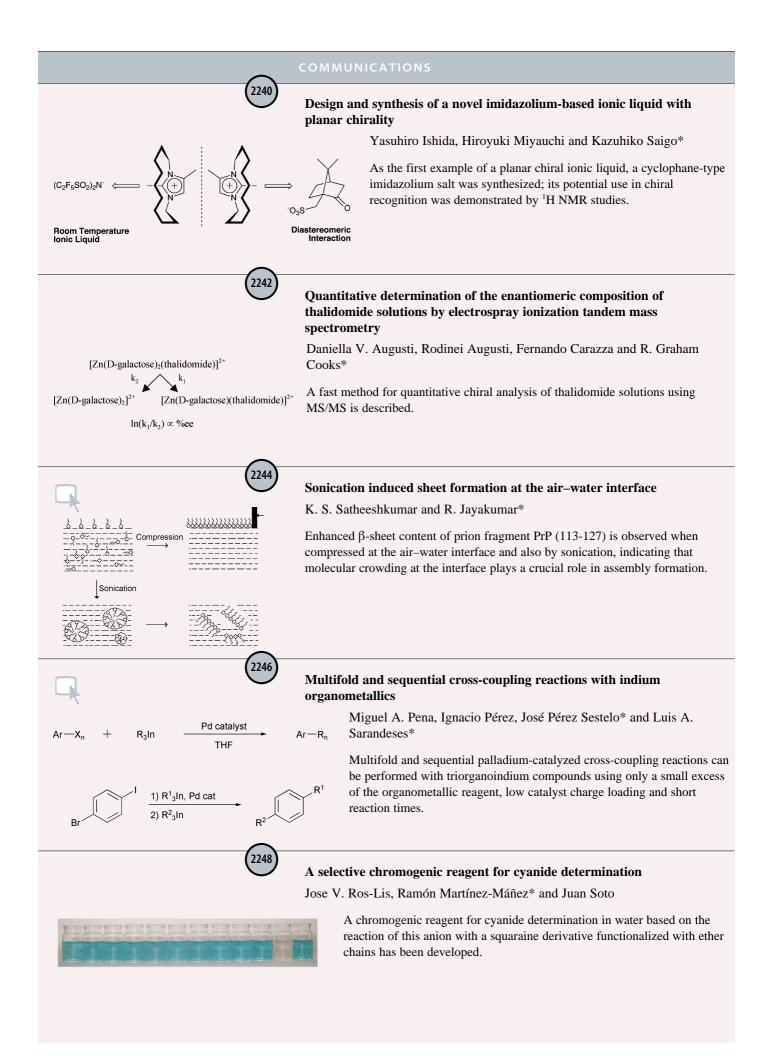
Janja Makarević, Milan Jokić, Leo Frkanec, Darinka Katalenić and Mladen Žinić*

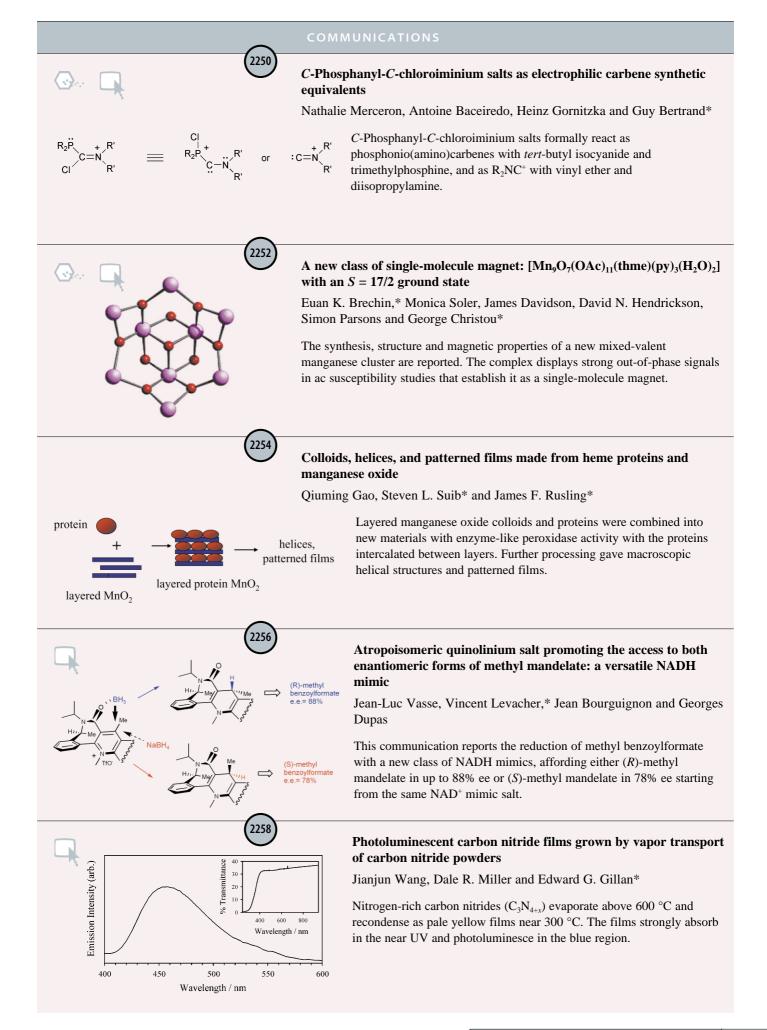


The oxalamide gelators 1 and 2 form common thermo-reversible gels and also gels of exceptional thermal stability which can be heated up to 50 $^{\circ}$ C higher temperatures than the bp of the gelled solvent.

HO

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COMMUNICATIONS



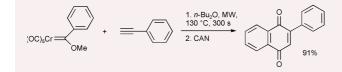
Spontaneous assembly of a hydrogen-bonded tetrahedron

Jason E. Field, Marianny Y. Combariza, Richard W. Vachet and D. Venkataraman*

Triphenylamine *ortho*-tricarboxylic acid has been synthesized and the crystal structure reported. This molecule is shown to spontaneously self-assemble into a hydrogen-bonded tetrahedron. Furthermore, Electrospray Ionization Mass Spectroscopy shows evidence for the stability of such aggregates from an ethanol/water solution.

The microwave-assisted Dötz benzannulation process

Edward J. Hutchinson, William J. Kerr* and Euan J. Magennis

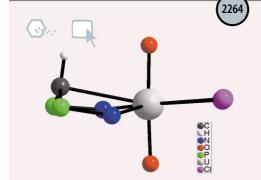


2262

2266

2268

The Dötz reaction has been shown to proceed remarkably rapidly and with enhanced efficiency under developed microwave-assisted conditions and gives benzannulation products in up to excellent yields following only 5 min reaction time.

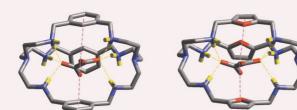


The first uranyl-methine carbon bond; a complex with out-of-plane uranyl equatorial coordination

Mark J. Sarsfield,* Madeleine Helliwell and David Collison

Treatment of $[UO_2Cl_2(thf)_3]$ in thf with one equivalent of $[Na{CH(Ph_2P=NSiMe_3)_2}]$ yields an unusual uranyl chloro-bridged dimer containing a uranium(VI)–carbon bond as part of a tridentate bis(iminophosphorano)methanide chelate complex. The methine carbon is significantly displaced from the uranyl equatorial plane.

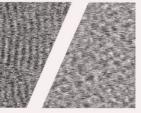
Dual-mode recognition of oxalate by protonated azacryptate hosts; conformational response of the guest maximizes π -stacking interactions



Jane Nelson,* Mark Nieuwenhuyzen, Ibolya Pál and Raewyn M. Town

Dual mode NH···O_(ox) and C=O to π recognition leads to exceptionally high stability constants for oxalate complexation by *m*-xylyl or 2,5-furano spaced cryptates.

water

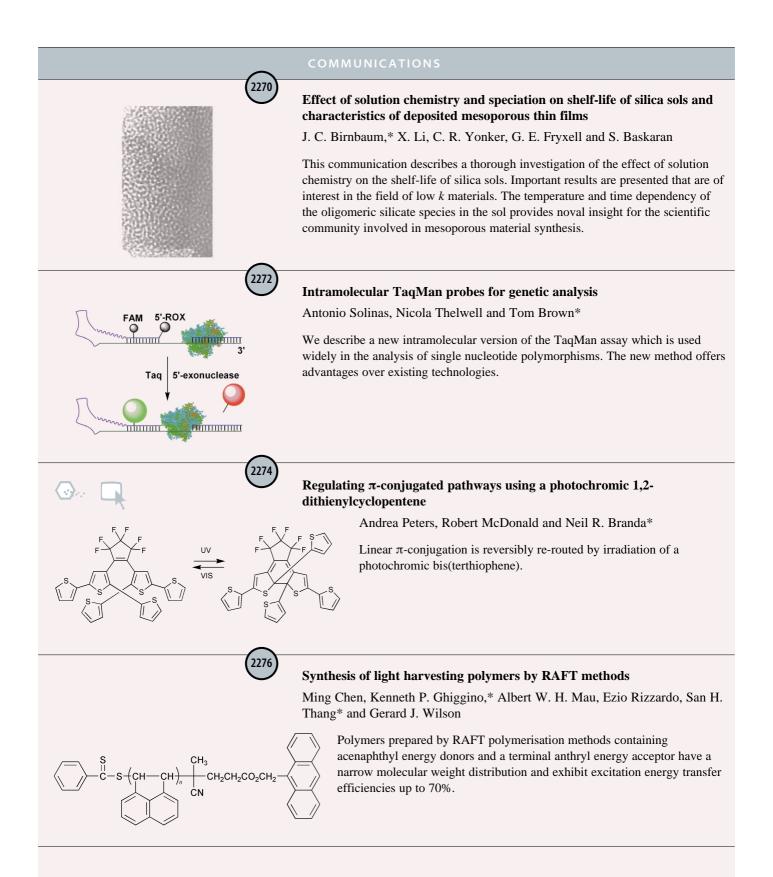


formamide

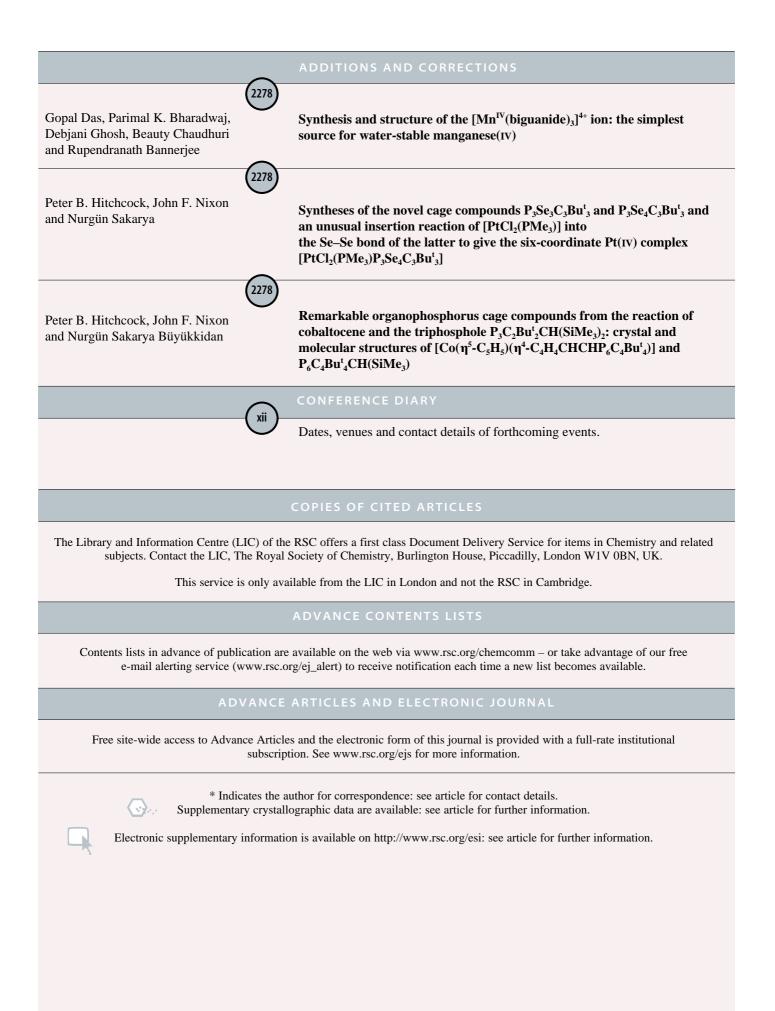
Shape of tetradecyltrimethylammonium chloride aggregates at liquid/solid interfaces in mixtures of water and formamide

Franck P. Duval and Gregory G. Warr*

Tetradecyltrimethylammonium chloride forms an adsorbed layer of micelle-like aggregates on mica in water/formamide mixtures at all compositions. As the formamide content is increased, the fully-developed adsorbed layer is formed at higher surfactant concentrations and the adsorbed aggregates are transformed from cylinders into globules.



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NOTE: An asterisk in the heading of each paper indicates the author who is to receive any correspondence.

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