

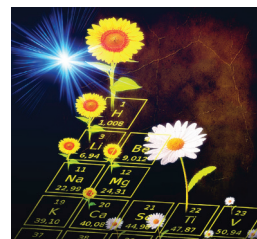
Mendeleev Communications

CONTENTS

FOCUS ARTICLE

479 Periodic table of elements and nanotechnology

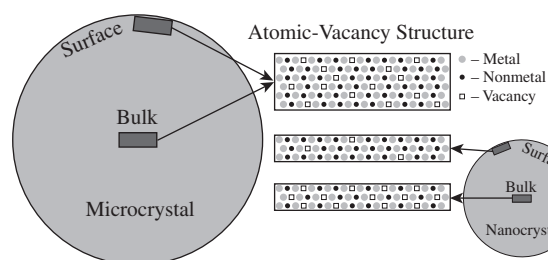
Anna A. Semenova, Alexey B. Tarasov,
Eugene A. Goodilin



COMMUNICATIONS

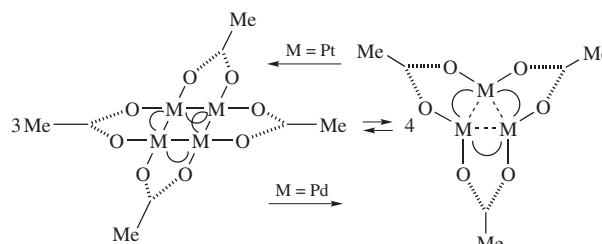
486 Size effect in nonstoichiometric titanium monoxide and vanadium carbide nanocrystals measured by positron lifetime spectroscopy

Andrey A. Rempel, Albina A. Valeeva,
Alexey S. Kurlov, Gregor Klinser, Wolfgang Sprengel



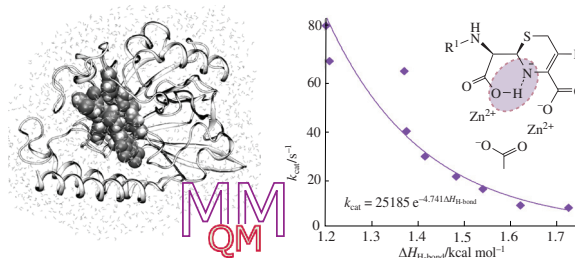
489 Structure and quantum chemical study of crystalline platinum(II) acetate

Alexander A. Markov, Ilya A. Yakushev,
Andrey V. Churakov, Victor N. Khrustalev,
Natalia V. Cherkashina, Igor P. Stolarov,
Alexander E. Gekhman, Michael N. Vargaftik

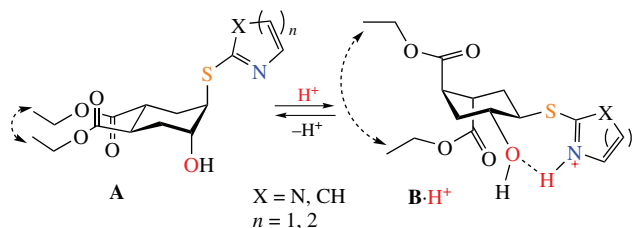


492 The N...H hydrogen bond strength in the transition state at the limiting step determines the reactivity of cephalosporins in the active site of L1 metallo-β-lactamase

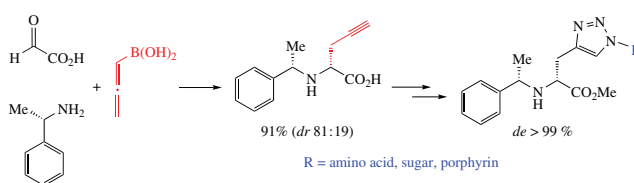
Maria G. Khrenova, Vladimir G. Tsirelson

495 *trans*-2-(Azaarylsulfanyl)cyclohexanol derivatives as potential pH-triggered conformational switches

Mulinde R. Ruyonga, Oscar Mendoza,
Vyacheslav V. Samoshin

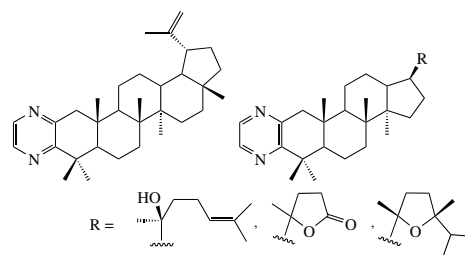
498 Efficient and stereoselective synthesis of (*S*)-α-propargylglycine derivatives from allenylboronic acid

Veronika A. Morozova, Irina P. Beletskaya,
Igor D. Titanyuk



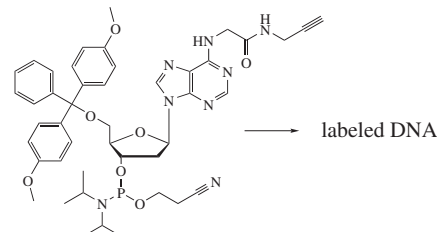
500 **Synthesis, structure and *in vitro* biological evaluation of new lupane and dammarane triterpenoids fused with pyrazine heterocycle**

Alla D. Zorina, Nadezhda S. Nikiforova, Vladimir V. Zarubaev, Sergei A. Marchenko, Stanislav I. Selivanov, Galina L. Starova, Arif R. Mehtiev, Evgenii I. Rodionov, Alina A. Rodionova, Rostislav E. Trifonov



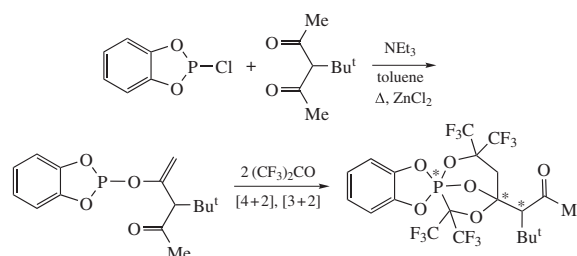
503 **Synthesis of a new alkynylated deoxyadenosine phosphoramidite for the click reaction-mediated DNA labeling**

Shiyu Wang, Feifan Liu, Jiaobing Fang, Yashu Li, Jun Liu, Mingzhe Liu



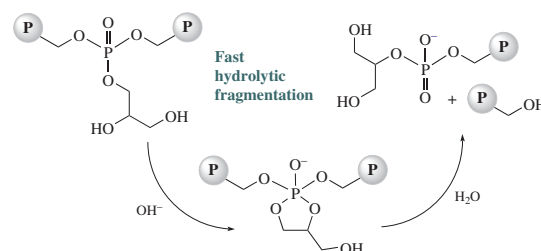
506 **The reaction of 4-(1,3,2-benzodioxaphosphol-2-yloxy)-3-*tert*-butylpent-4-en-2-one with hexafluoroacetone**

Vladimir F. Mironov, Tamara A. Baronova, Mudaris N. Dimukhametov, Robert R. Fayzullin, Igor A. Litvinov



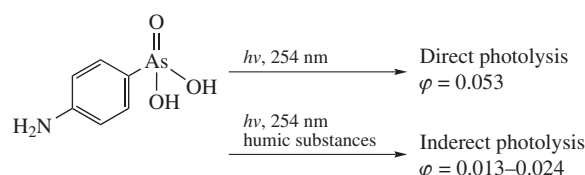
509 **Ultrafast hydrolytic degradation of 2,3-dihydroxypropyl functionalized poly(ethylene phosphates)**

Maxim A. Kosarev, Dmitry E. Gavrilov, Ilya E. Nifant'ev, Andrey V. Shlyakhtin, Alexander N. Tavtorkin, Viktor P. Dyadchenko, Vitaly A. Roznyatovsky, Pavel V. Ivchenko



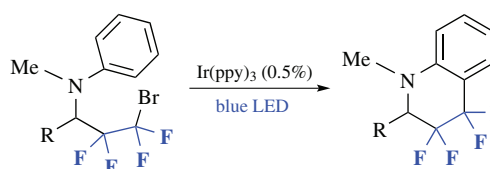
512 **UVC-induced photodegradation of *p*-arsanilic acid assisted by humic substances**

Yuliya E. Tyutereva, Peter S. Sherin, Zizheng Liu, Victor F. Plyusnin, Ivan P. Pozdnyakov



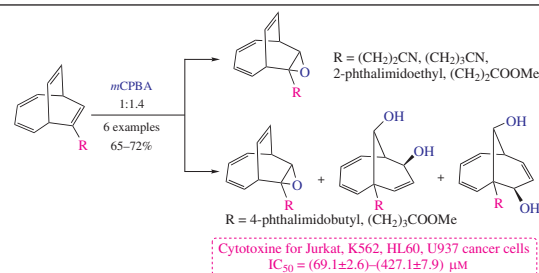
515 **Synthesis of tetrafluorinated tetrahydroquinolines via photoredox catalysis**

Vyacheslav I. Supranovich, Alexander D. Dilman



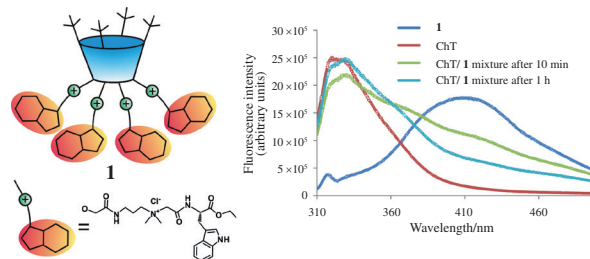
517 **Reactions of functionally substituted bicyclo[4.2.2]-deca-2,4,7,9-tetraenes with *m*-chloroperbenzoic acid and *in vitro* evaluation of product cytotoxicity against tumor cells**

Vladimir A. D'yakonov, Gulnara N. Kadikova, Guzel F. Gazizullina, Ilfir R. Ramazanov, Lilya U. Dzhemileva, Usein M. Dzhemilev



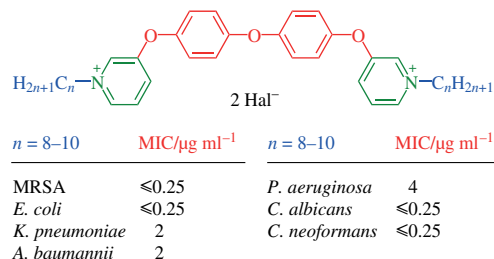
520 **Synthetic modulator of chymotrypsin activity based on *p*-*tert*-butylthiacalix[4]arene**

Olga A. Mostovaya, Yuliya A. Valiullina,
Chang T. Chan, Olga S. Potrekeeva, Pavel L. Padnya,
Yuriy F. Zuev, Ivan I. Stoikov



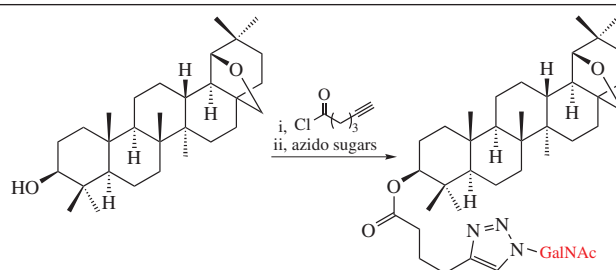
523 **Synthesis and microbiological properties of novel bis-quaternary ammonium compounds based on 4,4'-oxydiphenol spacer**

Anatoly N. Vereshchagin, Nikita A. Frolov,
Valeria Yu. Konyuhova, Karl A. Hansford,
Mikhail P. Egorov



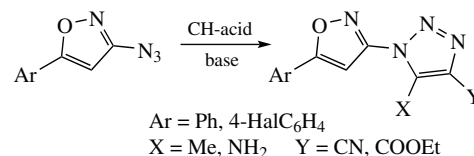
526 **Synthesis of allobetulin-based asialoglycoprotein receptor-targeted glycoconjugates**

Egor I. Seleznev, Emil Yu. Yamansarov,
Elena V. Lopatukhina, Anton V. Lopuhov,
Dmitry A. Skvortsov, Sergei A. Evteev,
Elvira T. Yamansarova, Amina Yu. Adalgareeva,
Natalia L. Klyachko, Elena K. Beloglazkina,
Yan A. Ivanenkov, Alexander G. Majouga



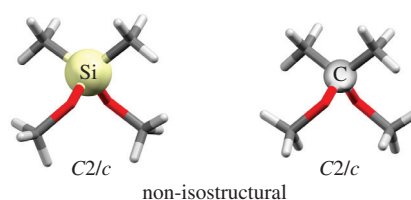
529 **Reaction of 3-azidoisoxazoles with active methylene compounds**

Pavel S. Lempert, Vitaly A. Roznyatovsky,
Boris N. Tarasevich, Olga V. Khromova,
Victor N. Khrustalev, Igor B. Rozentsveig,
Valentine G. Nenajdenko



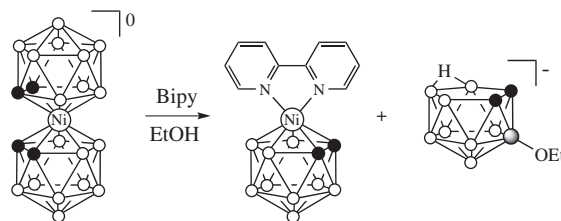
531 **In situ crystallization of 2,2-dimethoxypropane and dimethyldimethoxysilane: hunting for Group 14 isomorphism**

Ivan V. Fedyanin, Alexander F. Smol'yakov,
Konstantin A. Lyssenko



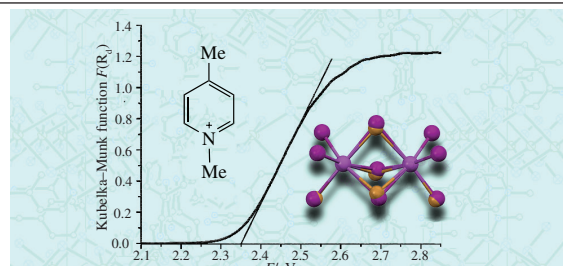
534 **Stability of nickel bis(dicarbollide) complexes**

Ekaterina P. Andreichuk, Aleksei A. Anisimov,
Akim V. Shmalko, Kyrill Yu. Suponitsky,
Igor B. Sivaev, Vladimir I. Bregadze



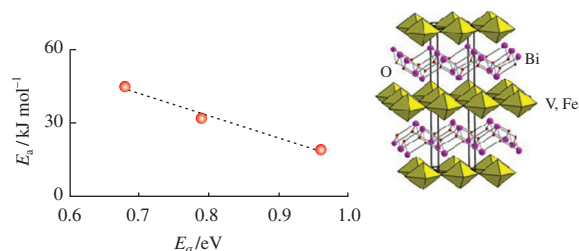
537 **Mixed halide hybrid halobismuthates and their in situ transformations**

Vitalii Yu. Kotov, Andrey B. Ilyukhin, Petr A. Buikin,
Khursand E. Yorov



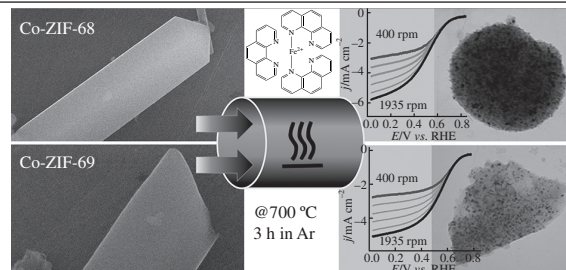
541 **Relationship between the crystal structure, conductive and catalytic properties of perovskites $\text{Bi}_4\text{Fe}_{2x}\text{V}_{2-2x}\text{O}_{11-\delta}$**

Elena I. Knyazeva, Anna I. Pylina, Irina I. Mikhalenko



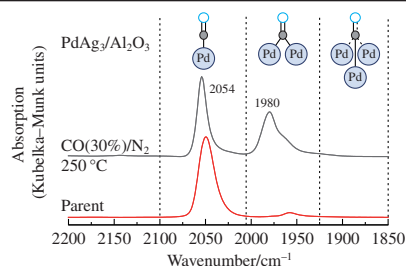
544 **Cobalt-based ZIF-68 and ZIF-69 as the precursors of non-platinum electrocatalysts for oxygen reduction**

Yulia A. Pimonova, Tatiana A. Lastovina, Andriy P. Budnyk, Egor A. Kudryavtsev, Maxim N. Yaprntsev



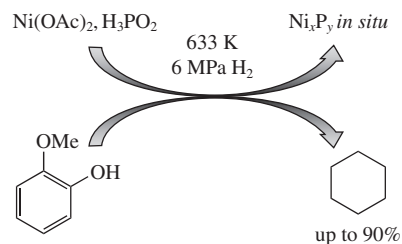
547 **CO-induced segregation as an efficient tool to control the surface composition and catalytic performance of $\text{PdAg}_3/\text{Al}_2\text{O}_3$ catalyst**

Nadezhda S. Smirnova, Pavel V. Markov, Galina N. Baeva, Alexander V. Rassolov, Igor S. Mashkovsky, Andrey V. Bukhtiyarov, Igor P. Prosvirin, Maxim A. Panafidin, Yan V. Zubavichus, Valerii I. Bukhtiyarov, Alexander Yu. Stakheev



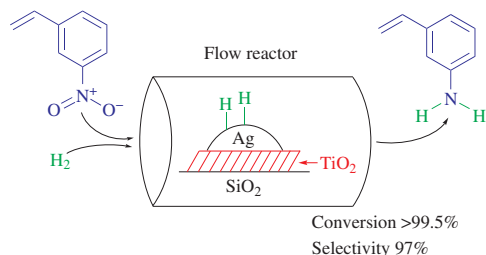
550 **Catalytic system based on nickel(II) acetate and hypophosphorous acid for the selective hydrodeoxygenation of guaiacol**

Maria A. Golubeva, Anton L. Maximov



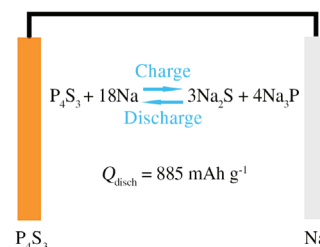
553 **Chemoselective hydrogenation of 3-nitrostyrene over $\text{Ag}/\text{TiO}_2\text{-SiO}_2$ catalyst in a flow reactor**

Alexey L. Nuzhdin, Galina A. Bukhtiyarova, Tingting Lin, Evgeny Yu. Gerasimov, Valerii I. Bukhtiyarov



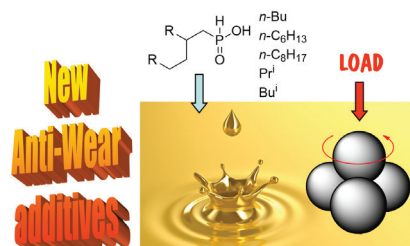
556 **Phosphorus sulfide as a functional material for sodium-ion batteries**

Tatiana L. Kulova, Alexander M. Skundin, Dmitry Yu. Gryzlov, Yulia O. Kudryashova, Andrey A. Chekannikov



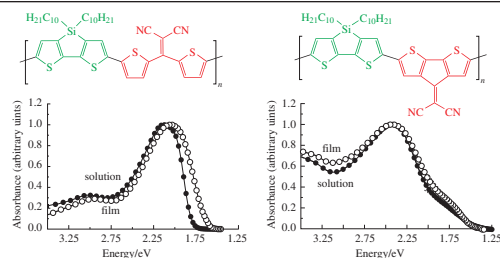
558 **Branched alkylphosphinic acids demonstrate explicit anti-wear effect**

Ilya E. Nifant'ev, Anton S. Lyadov, Alexander N. Tavgorkin, Alexey A. Vinogradov, Alexander A. Kochubeev, Pavel V. Ivchenko



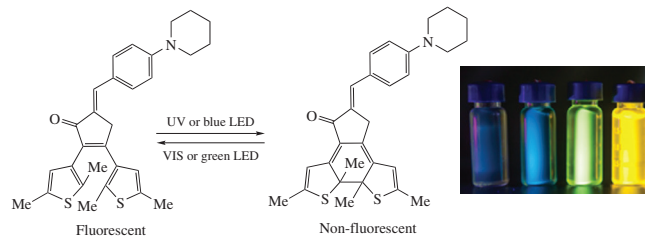
561 **Novel conjugated copolymers with dithienyl and cyclopentadithienyl substituted dicyanoethene acceptor blocks**

Fedor V. Drozdov, Yuriy N. Luponosov, Evgeniya A. Svidchenko, Svetlana M. Peregudova, Petr V. Dmitryakov, Sergey N. Chvalun, Sergey A. Ponomarenko



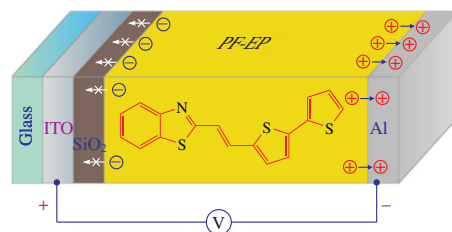
564 **Modulation of diarylethene fluorescence by photochromic switching and solvent polarity**

Sofia K. Lazareva, Evgeni M. Glebov, Anatoly V. Metelitsa, Andrey G. Lvov, Valerii Z. Shirinian, Marianna Gregova-Trencanova, Dushan Velic, Artem B. Smolentsev



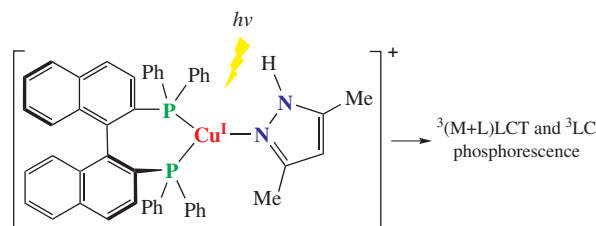
567 **Donor-acceptor (*E*)-2-[2-(2,2'-bithiophen-5-yl)vinyl]-benzo[*d*]thiazole: synthesis, optical, electrochemical studies and charge transport characteristics**

Sergey D. Tokarev, Yulia A. Sotnikova, Alexander V. Anisimov, Yuri V. Fedorov, Gediminas Jonusauskas, Dmitriy A. Lypenko, Vladimir V. Malov, Alexey R. Tameev, Eugene I. Mal'tsev, Olga A. Fedorova



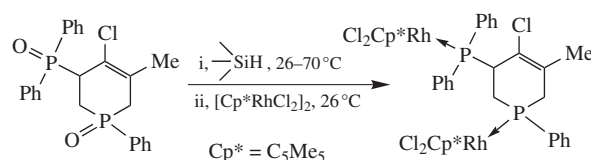
570 **Copper(I) complex with BINAP and 3,5-dimethylpyrazole: synthesis and photoluminescent properties**

Aleksei A. Titov, Oleg A. Filippov, Alexander F. Smol'yakov, Alexey A. Averin, Elena S. Shubina



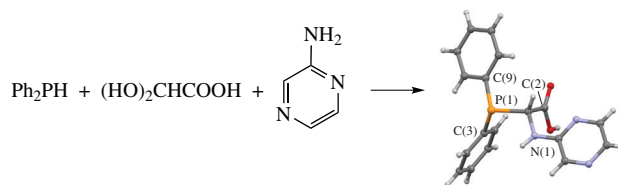
573 **New bis-rhodium complex with a bidentate 3-phosphino-1,2,3,6-tetrahydrophosphinine P-ligand**

Irina L. Odinets, Tamás Körtvélyesi, Réka Herbay, Péter Bagi, György Keglevich



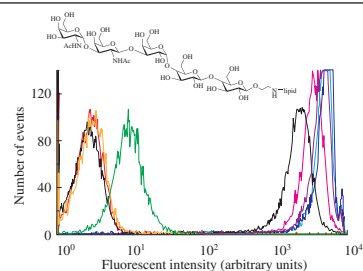
575 **α -Diphenylphosphino-*N*-(pyrazin-2-yl)glycine as a ligand in Ni-catalyzed ethylene oligomerization**

Olga S. Soficheva, Giyjaz E. Bekmukhamedov, Alexey B. Dobrynin, Joachim W. Heinicke, Oleg G. Sinyashin, Dmitry G. Yakhvarov



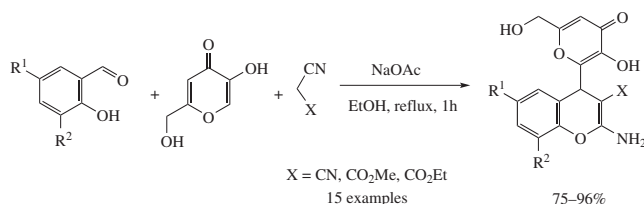
578 **Synthesis of blood group Forssman pentasaccharide GalNAc α 1-3GalNAc β 1-3Gal α 1-4Gal β 1-4Glc β -R**

Inna S. Popova, Elena Yu. Korchagina, Marina A. Sablina, Alexander S. Paramonov, Annika K. Hult, Stephen M. Henry, Nicolai V. Bovin



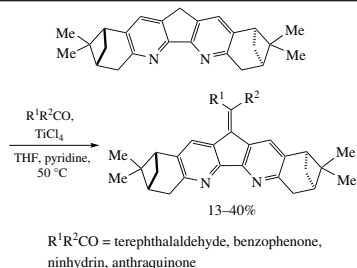
581 **Multicomponent assembling of salicylaldehydes, kojic acid and malonic acid derivatives**

Michail N. Elinson, Anatoly N. Vereshchagin,
Yuliya E. Anisina, Stepan K. Krymov,
Artem N. Fakhrutdinov, Mikhail P. Egorov



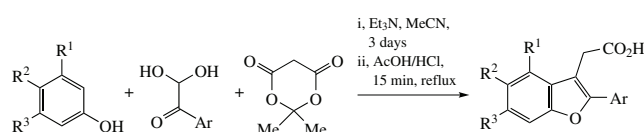
584 **Syntheses of chiral fused 4,5-diazafluorene-bis(nopinane) derivatives**

Eugene S. Vasilyev, Sergey N. Bizyaev,
Vladislav Yu. Komarov, Alexey V. Tkachev



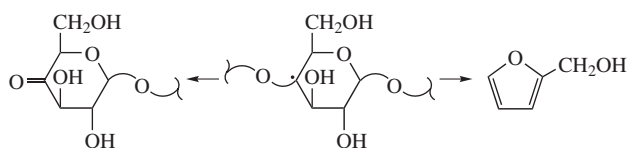
587 **Synthesis of substituted benzofuran-3-ylacetic acids based on three-component condensation of polyalkoxyphenols, arylglyoxals and Meldrum's acid**

Boris V. Lichitsky, Alexander D. Tretyakov,
Andrey N. Komogortsev, Vitaly S. Mityanov,
Arkady A. Dudinov, Yuri O. Gorbunov,
Elena D. Daeva, Mikhail M. Krayushkin



589 **Self-disassembly of plant macromolecules**

Alexander V. Ponomarev, Boris G. Ershov



592 **Rapid HPLC method for scopoletine determination in *Weigela* leaves based on one-step sample preparation by extractive freezing-out**

Victor N. Bekhterev, Valentina I. Malyarovskaya



595 **Separation technique based on electrophoresis, chromatography and magnetism phenomena: the migration time and peak broadening**

Alexey Yu. Shmykov, Anton L. Bulyanitsa,
Vladimir E. Kurochkin, Andrei R. Timerbaev

