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Index Abstracts

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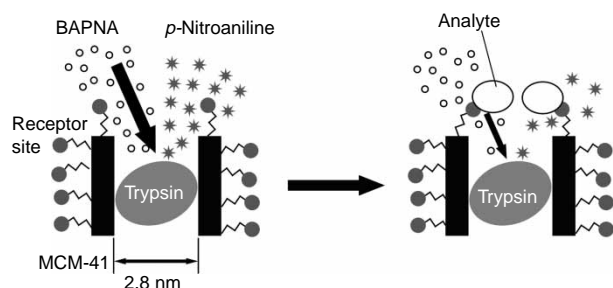
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Index Abstracts

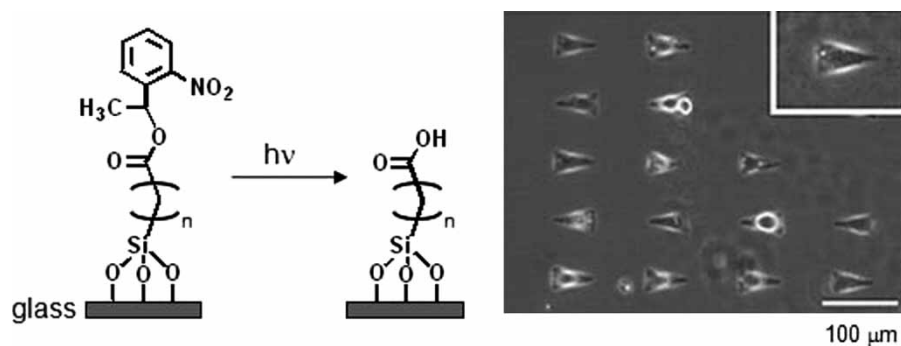


We describe a new method for the detection of an analyte with a gate-like system based on enzyme-loaded mesoporous silica MCM-41. The activity of trypsin on polyamine-modified MCM-41 was controlled by ATP^{4-} ions that bind to the polyamine site.

K. Nozawa, A. Shoji and M. Sugawara

Trypsin-loaded mesoporous silica as a sensing material for amplified detection of ATP^{4-} ions

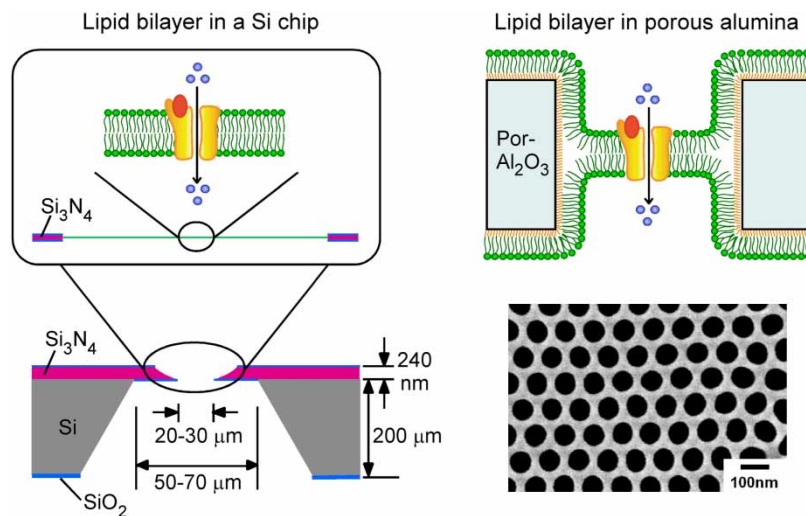
389–395



Jun Nakanishi, Yukiko Kikuchi, Yuki Tsujimura, Hidekazu Nakayama, Shingo Kaneko, Takahiro Shimizu, Kazuo Yamaguchi, Hideo Yokota, Yasuhiko Yoshida, Tohru Takarada, Mizuo Maeda and Yasuhiro Horiike

Precise patterning of photoactivatable glass coverslip for fluorescence observation of shape-controlled cells

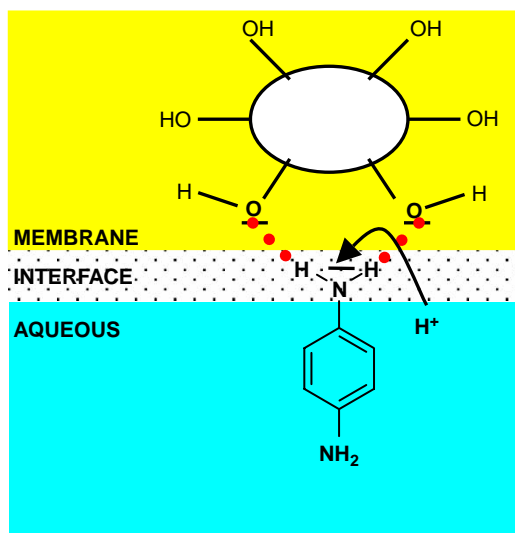
396–405



Ayumi Hirano-Iwata, Azusa Oshima, Tomohiro Nasu, Tasuku Taira, Yasuo Kimura and Michio Niwano

Stable lipid bilayers based on micro- and nano-fabrication

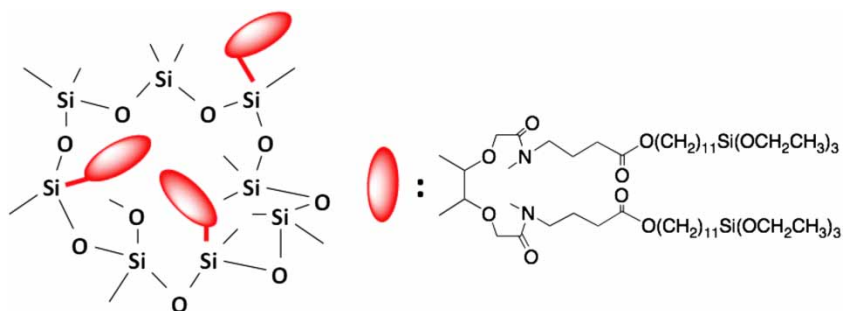
406–412



R. Poduval, K. Kurzątkowska, M. Stobiecka, W.F.A. Dehaen, W. Dehaen, H. Radecka and J. Radecki

Systematic study of interaction of the neutral form of anilines with undecylcalix[4]resorcinarene derivatives by means of potentiometry

413–419

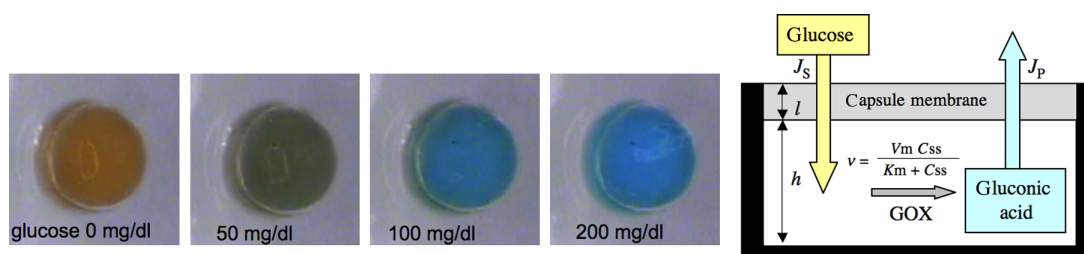


Ca²⁺-selective neutral carriers for sol-gel-derived membranes encapsulating and covalently binding them were synthesized. The membranes showed Nernstian responses for Ca²⁺ and high Ca²⁺-selectivity over Na⁺ and K⁺.

Setsuko Yajima, Sachie Uchida, Yusuke Hori and Keiichi Kimura

Neutral carrier-type Ca²⁺ sensors based on sol-gel-derived membranes incorporating diether-amide derivatives

420–424

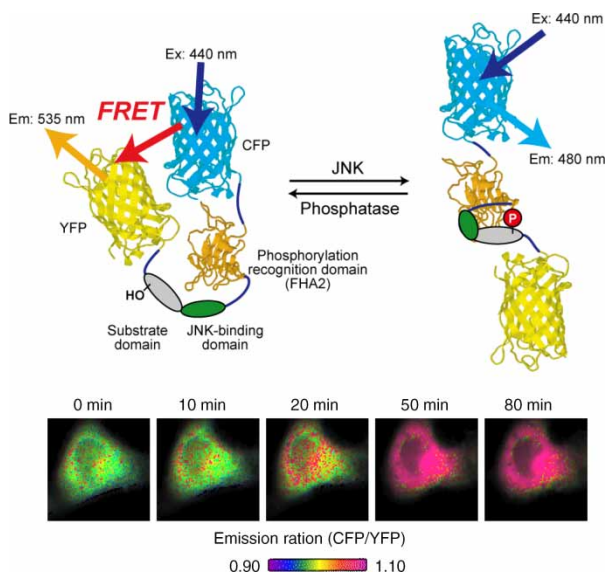


A theoretical model for submillimetre-sized optical glucose sensors based on microscopic pH-sensitive optode beads and GOX inside hydrophilic membrane capsules is presented. In this model, glucose influx and gluconic acid efflux across the capsule membrane are combined with enzymatic kinetics inside the capsule. Excellent agreements between the predicted sensor responses and the experimentally obtained ones were achieved in buffer solutions containing glucose at physiologically relevant concentrations. Consequently, this model can predict enhancement of the sensor response for glucose by reducing the gluconic acid efflux, and provides a general precept for the fabrication of enzyme-based optical sensors with enhanced responses.

Koji Tohda, Tatsuya Yamamoto and Miklós Gratzl

Modelling the response function of enzyme-based optical glucose-sensing capsules

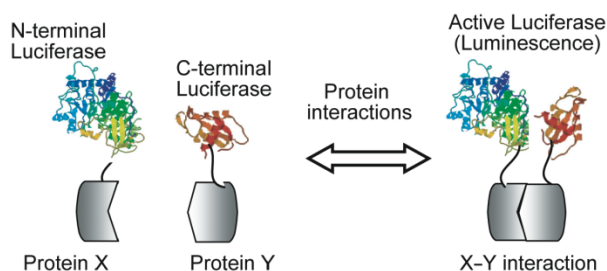
425–433



Hideyuki Suzuki and Moritoshi Sato

Genetically encoded fluorescent indicators to visualise protein phosphorylation by c-Jun NH₂-terminal kinase in living cells

434–439

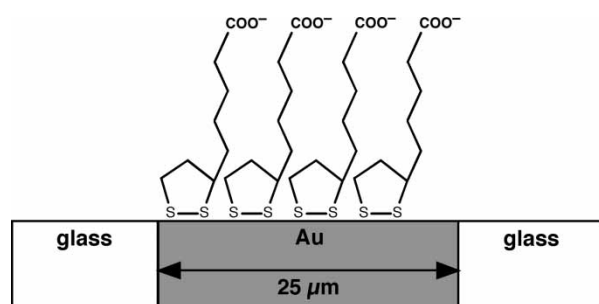


Complementation and reconstitution from split fragments of luminescent proteins present a useful technique for the detection of intracellular signalling in living cells and animals.

Sung Bae Kim and Takeaki Ozawa

Creating bioluminescent indicators to visualise biological events in living cells and animals

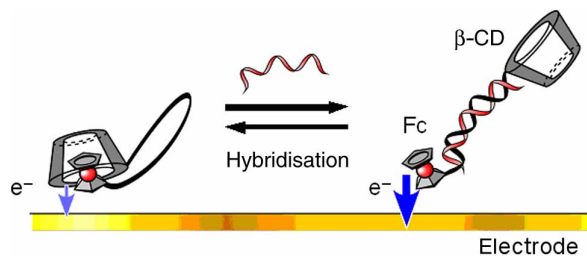
440–449



D.M. Neluni T. Perera, Shinobu Nagasaka and Takashi Ito

pH-dependent voltammetric responses of microdisc gold electrodes modified with thiotic acid self-assembled monolayers

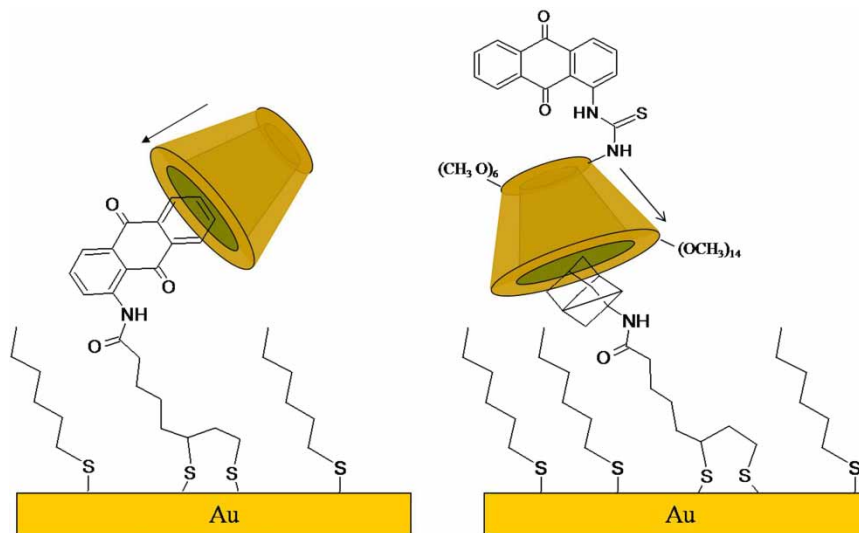
450–454



Hiroshi Aoki, Akiko Kitajima and Hiroaki Tao

Label-free and 'signal-on' DNA detection using a probe DNA terminated with ferrocene and β -cyclodextrin

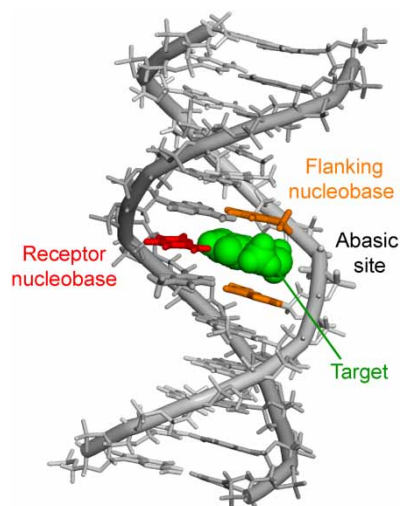
455–460



Olga Swiech, Kazimierz Chmurski and Renata Bilewicz

Molecular interactions of β -cyclodextrins with monolayers containing adamantane and anthraquinone guest groups

461–466



Seiichi Nishizawa, Yusuke Sato, Zhiai Xu, Kotaro Morita, Minjie Li and Norio Teramae

Abasic site-based DNA aptamers for analytical applications

467–476