

# química nova

Órgão de divulgação da SBQ

Programa de Apoio a Publicações Científicas

SCT/PR



CNPq



FINEP

Financiada pela FAPESP

- |   |     |  |
|---|-----|--|
| A. C. Tedesco, L. C. Nogueira,<br>J. B. S. Bonilha, E. O. Alonso<br>and F. H. Quina   | 275 | Nucleophilic Aromatic Photosubstitution Reactions in Aqueous Solution and in Organized Media   |
| M. G. Neumann and M. J. Tiera   | 280 | The Use of Basic Dyes as Photochemical Probes  |
| C. Bohne and J.C. Scaiano   | 288 | Thermochemical Parameters for Molecules and Reaction Intermediates Containing the Diphenylmethyl Moiety  |
| G. Martínez, S. G. Bertolotti,<br>O.E. Zimerman, N. A. García, D.<br>O. Mártire and S. E. Braslavsky  | 294 | A Kinetic Study on the Photodynamic Properties of the Xanthene Dye Merbromin (Mercurochrome) and its Aggregates with Amino Acids in Aqueous Solution               |
| E. Silva  | 301 | Biological Implications of Riboflavin Sensitized Photoproducts of Tryptophan. A Review.  |
| A. Favre, P. Laugãa,<br>A. Woisard, P. Clivio<br>and J.-L. Fourrey  | 304 | Synthesis and Photochemistry of Oligonucleotides Containing Thiosubstituted Nucleobases. Model Photoreactions for DNA Photolesions.                                |
| A. L. Baumstark, T. Baranowski<br>and P. C. Vasquez   | 308 | Thermolysis of 3-[(Trimethylsilyloxy)methyl]-3,4,4-trimethyl-1,2-dioxetane: Activation Parameters, Chemiexcitation Yields and Deprotection                         |
| H. Sies, M. Hanusch, W. Stahl<br>and A. R. Sundquist  | 312 | Triplet Carbonyl Species Generated from 3-Hydroxymethyl-3,4,4-trimethyl-1,2-dioxetane (HTMD) Induce on <i>cis/trans</i> Isomerization of Carotenoids               |
| W. Adam, T. Mosandl, D.<br>Ramaiah, C. R. Saha-Möller,<br>B. Epe and D. Wild  | 316 | Furocoumarin Dioxetanes and Hydroperoxides as Novel Photobiological DNA-Damaging Agents  |
| K. R. Kopecky   | 321 | Luminescent Products From Ozonolysis Reactions   |
| T. Akasaka, I. Kita, M. Haranaka<br>and W. Ando   | 325 | Singlet Oxygen Oxidation of Organophosphorus Compounds: Cooxidation of Olefin with Phosphadioxirane  |
| C. F. M. Menck, P. Di Mascio,<br>L. F. Agnez, D. T. Ribeiro<br>and R. C. Oliveira   | 328 | Genetic Deleterious Effects of Singlet Oxygen  |
| Y.-H. Mei, T. Wilson<br>and A. U. Khan  | 337 | Polyamine Content and Cell Cycle in a Unicellular Alga. Data are Consistent with Polyamines' Function of Protecting DNA Against Oxidative Damage by Singlet Oxygen |
| S. Schreier and<br>M. T. Lamy-Freund  | 343 | Spectroscopic Studies of Aggregation and Autoxidation Properties of the Polyene Antibiotic Amphotericin B  |
| H. B. Dunford   | 350 | Peroxidase Catalyzed Electronic Excitations in Brasil and Canada: Isobutyraldehyde and Indole-Acetic Acid. The Importance of the Initiation Step                   |
| R. C. Allen   | 354 | Phagocyte Luminescence: From Quantum Mechanical Considerations to Clinical Applications  |
| A. G. Prat, M. Galleano, A. S.<br>Llera and A. Boveris  | 360 | Stoichiometric Ratios of Reactive Oxygen Species Production by Polymorphonuclear Leukocytes  |
| I. Yamazaki   | 365 | Hydroxyl Radical Formation in Biological Systems   |
| M. A. Pedro, R. M. Gatty<br>and O. Augusto  | 370 | <i>In Vivo</i> Free Radical Formation Monitored by the Ascorbyl Radical  |
| E. A. Lissi, M. Salim-Hanna,<br>L. A. Rojas, C. Silva and<br>L. A. Videla   | 373 | Enhanced Urinary Spontaneous Visible Luminescence in Smokers   |
| R. Meneghini, E.A.L. Martins<br>and M. Calderaro  | 377 | Oxidative DNA Damage and Homeostasis of Intracellular Iron and Copper Ions   |
| A. E. Vercesi   | 381 | The Role of Ca <sup>2+</sup> in the Process of Mitochondrial Damage Associated With Oxidative Stress   |
| E. J. H. Bechara, M. H. G.<br>Medeiros, H. P. Monteiro,<br>M. Hermes-Lima, B. Pereira,<br>M. Dermasi, C. A. Costa,<br>D. S. P. Abdalla, J. Onuki,<br>C. M. A. Wendel and P. Di Mascio | 385 | A Free Radical Hypothesis of Lead Poisoning and Inborn Porphyrrias Associated with 5-Aminolevulinic Acid Overload  |

# QUÍMICA NOVA

Órgão de Divulgação da Sociedade Brasileira de Química

## Editores

Helena M.C. Ferraz  
Vera L. Pardini  
Angelo da C. Pinto

Este número especial de Química Nova teve como Editor Associado o Prof. Etelvino J. H. Bechara (IQUSP).

## Conselho Editorial

Alfredo Arnobio de S. da Gama (PE)  
Ana M. A. Goldfarb (SP)  
Elias A. G. Zagatto (SP)  
Fernanda M.B. Coutinho (RJ)  
Francisco R. Aquino Neto (RJ)  
Heloiza H. R. Schor (MG)

Jailson B. de Andrade (BA)  
Luis A. Avaca (SP)  
Marcos C. Rezende (SC)  
Nidia F. Roque (SP)  
Oswaldo L. Alves (SP)  
Ronaldo A. Pilli (SP)

---

## SBQ

Sociedade Brasileira de Química

### Diretoria

*Presidente:* Marco Aurélio De Paoli  
*Vice Presidente:* Hans Viertler  
*Secretário Geral:* Romeu Cardozo Rocha Filho  
*1º Secretário:* Vitor Francisco Ferreira  
*Tesoureiro:* Paulo Sérgio Santos  
*1º Tesoureiro:* Ivano G. R. Gutz  
*Secretária Executiva:* Dirce M. F. Campos

### Conselho

Angelo da Cunha Pinto  
Carlos Alberto L. Filgueiras  
Eduardo M. A. Peixoto  
Etelvino J. H. Bechara  
Fernando Galembeck  
Henrique E. Toma

---

Química Nova é distribuída gratuitamente a todos os sócios da SBQ

**Pedido de assinatura e distribuição:**  
Secretaria Executiva - SBQ  
Instituto de Química - USP  
C. Postal 22.296  
01498-970 - São Paulo (SP) - Brasil  
Tel.: (011) 212-2894  
Fax: (011) 814-3602

**Envio de manuscritos:**  
Química Nova (Editoria)  
Instituto de Química - USP  
C. Postal 22.296  
01498-970 - São Paulo - (SP) - Brasil