

Elements

An International Magazine of Mineralogy, Geochemistry, and Petrology



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Grand Prismatic Spring,
Yellowstone National Park,
Wyoming USA

Organic Biomarkers

Guest Editors: **Sebastian Naeher, Xingqian Cui, and Roger Summons**



Biomarkers: Molecular Tools to Study Life, Environment, and Climate

Sebastian Naeher, Xingqian Cui, and Roger E. Summons

Contributions of Genomics to Lipid Biomarker Research: From Paleoclimatology to Evolution

Laura Villanueva and Marco J.L. Coolen

Biomarkers in the Precambrian: Earth's Ancient Sedimentary Record of Life

Christian Hallmann, Katherine L. French, and Jochen J. Brocks

Biomarkers in Extreme Environments on Earth and the Search for Extraterrestrial Life in Our Solar System

Florence Schubotz, Mark A. Sephton, and Sylvie Derenne

Advancing Analytical Frontiers in Molecular Organic Biomarker Research Through Spatial and Mass Resolution

Amy M. McKenna, Paul D. Zander, and Lars Wörmer

Future Outlook for Applications of Biomarkers and Isotopes in Organic Geochemistry

John K. Volkman

DEPARTMENTS

Editorial – Organic Geochemistry's Looming Test	75
From the Editors	76
Meet the Authors	77
People in the News	78
Society News	
Association of Applied Geochemists	121
European Association of Geochemistry	122
Geochemical Society	124
Japan Association of Mineralogical Sciences	125
Deutsche Mineralogische Gesellschaft	126
Mineralogical Association of Canada	128
Mineralogical Society of America	130
Meteoritical Society	132
Sociedad Española de Mineralogía	134
Société Française de Minéralogie et de Cristallographie	134
Clay Minerals Society	135
Mineralogical Society of the UK and Ireland	136
International Mineralogical Association	138
International Association of GeoChemistry	139
Calendar	140
Advertisers in this Issue	140