

Special Issue

Polyoxometalates (POMs) as Catalysts for Biomass Conversion

Message from the Guest Editors

Polyoxometalates (POMs) are unique complex metal oxides with outstanding properties and remarkable applications. They are solid superacids that exhibit pseudo-liquid phase behavior and are capable of replacing mineral acids for plant utility. As solid acid catalysts, they can enable numerous catalytic transformations. For instance, there is currently a paradigm shift from fossil-based resources to biobased resources at refineries or upcoming biorefinery facilities. In this context, many breakthroughs are expected in the catalytic application of polyoxometalates, also called heteropoly acids, towards the conversion of biomass to biofertilizers, biochemical, biofuels and biomaterials. Other classes of polyoxometalates, including Dawson-type, Anderson-type and others, are underutilized. Likewise, W- and Mo-containing polyoxometalates have been studied in detail for their catalytic role. With these new ideas in mind, the Editors of this Special Issue venture into the unknown by launching this Special Issue, entitled “Polyoxometalates (POMs) as catalysts for biomass conversion.”

Guest Editors

Dr. Indra Neel Pulidindi

Scientific Consultant, JSCIAR, Chennai, India

Prof. Dr. Thirukkallam Kanthadai Varadarajan

Department of Chemistry, IIT Madras, Chennai 600036, Tamilnadu, India

Prof. Dr. Balasubramanian Viswanathan

Department of Chemistry, Indian Institute of Technology Madras, Chennai, Tamil Nadu 600036, India

Deadline for manuscript submissions

closed (28 February 2026)



Catalysts

an Open Access Journal
by MDPI

Impact Factor 4.0
CiteScore 7.6



mdpi.com/si/166577

Catalysts
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
catalysts@mdpi.com

[mdpi.com/journal/
catalysts](https://mdpi.com/journal/catalysts)





Catalysts

an Open Access Journal
by MDPI

Impact Factor 4.0
CiteScore 7.6



[mdpi.com/journal/
catalysts](https://mdpi.com/journal/catalysts)



About the Journal

Message from the Editor-in-Chief

Editor-in-Chief

Prof. Dr. Keith Hohn
Carl R. Ice College of Engineering, Kansas State University, Manhattan,
KS, USA

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPlus / SciFinder, CAB Abstracts, and other databases.

Journal Rank:

JCR - Q2 (Chemistry, Physical) / CiteScore - Q1 (General Environmental Science)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 15.9 days after submission; acceptance to publication is undertaken in 3.5 days (median values for papers published in this journal in the second half of 2025).