

JOURNAL OF APPLIED MATERIAL SCIENCE





Contents

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Editorial 210135

Aims and scope of the journal, a brief submission guideline, and the list of the editorial board.

Ahmad Allahbakhsh

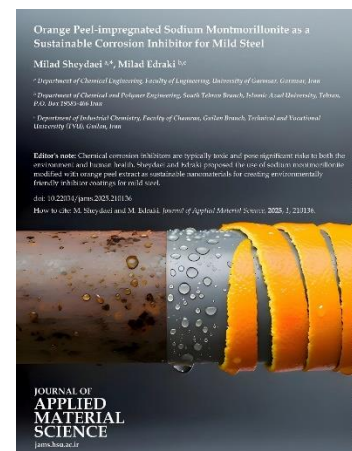
doi: 10.22034/jams.2025.210135

Orange Peel-impregnated Sodium Montmorillonite 210136 as a Sustainable Corrosion Inhibitor for Mild Steel

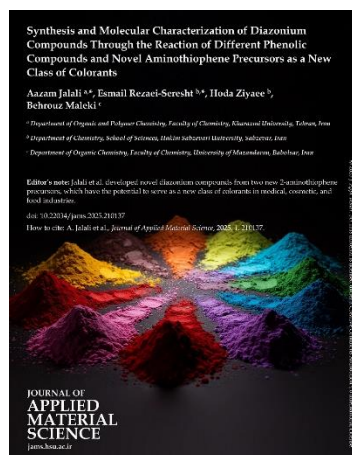
Chemical corrosion inhibitors are typically toxic and pose significant risks to both the environment and human health. Sheydaei and Edraki proposed the use of sodium montmorillonite modified with orange peel extract as sustainable nanomaterials for creating environmentally friendly inhibitor coatings for mild steel

Milad Sheydaei, Milad Edraki

doi: 10.22034/jams.2025.210136



Synthesis and Molecular Characterization of Diazonium Compounds 210137 Through the Reaction of Different Phenolic Compounds and Novel Aminothiophene Precursors as a New Class of Colorants



Jalali et al. developed novel diazonium compounds from two new 2-aminothiophene precursors, which have the potential to serve as a new class of colorants in medical, cosmetic, and food industries.

Aazam Jalali, Esmail Rezaei-Seresht, Hoda Ziyae, Behrouz Maleki

doi: 10.22034/jams.2025.210137

**Hybrid Ionic Liquid-assisted Biomagnetic Nanocomposite 210138
 for Efficient Removal of a Cationic Dye**

Conventional methods for dye removal, such as adsorption, have several limitations, including low efficiency, high costs, and the risk of secondary pollution. This has led to significant research interest in developing sustainable and innovative materials for dye absorption. Thati et al. utilized coconut shells as a green resource to create biomagnetic nanocomposites that demonstrate high efficiency in removing cationic dyes.

Mounika Thati, Madhavi Vemula, Santhee Devi Karri

doi: 10.22034/jams.2025.210138



**Exploring Corrosion Protection Potential of Sustainable 210139
 and Green *Morus alba* 'Pendula' Fruit Extracts**



Plant extracts can provide new opportunities for developing next-generation sustainable corrosion protection systems. Shiri utilized Pendula fruit extracts as a novel resource for creating corrosion inhibition systems. The developed system was effective in preventing mild steel corrosion in a salty environment, indicating the potential of this green corrosion protection method for future sustainable applications.

Sara Shiri

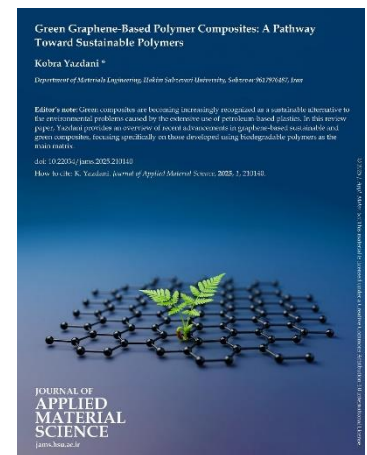
doi: 10.22034/jams.2025.210139

**Green Graphene-Based Polymer Composites: A Pathway 210140
 Toward Sustainable Polymers**

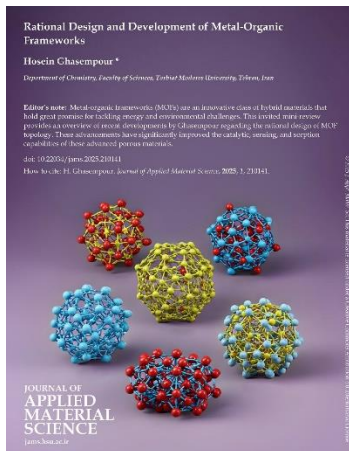
Green composites are becoming increasingly recognized as a sustainable alternative to the environmental problems caused by the extensive use of petroleum-based plastics. In this review paper, Yazdani provides an overview of recent advancements in graphene-based sustainable and green composites, focusing specifically on those developed using biodegradable polymers as the main matrix.

Kobra Yazdani

doi: 10.22034/jams.2025.210140



Rational Design and Development of Metal-Organic Frameworks 210141



Metal-organic frameworks (MOFs) are an innovative class of hybrid materials that hold great promise for tackling energy and environmental challenges. This invited mini-review provides an overview of recent developments by Ghasempour regarding the rational design of MOF topology. These advancements have significantly improved the catalytic, sensing, and sorption capabilities of these advanced porous materials.

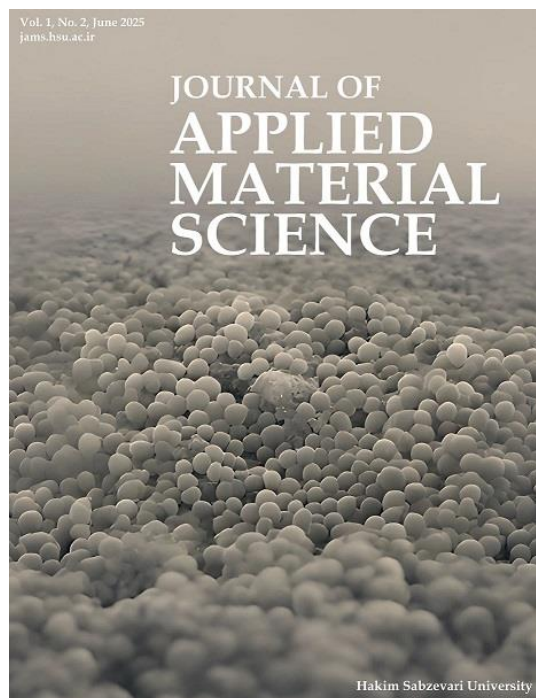
Hosein Ghasempour

doi: 10.22034/jams.2025.210141

ABOUT COVER

Three-dimensional carbon-based materials show great potential for hosting various microorganisms, paving the way for next-generation living materials. The cover features a regenerated image based on a field emission scanning electron microscope (FESEM) image of a graphene-based highly porous aerogel, which was incubated with *Staphylococcus aureus* (*S. aureus*) bacteria for two days.

(Note: The covers of this journal are created in part using artificial intelligence (AI) technologies, with direct human supervision. AI and AI-assisted technologies are permitted only for generating graphical abstract suggestions. If such technologies are used in the manuscript preparation, it must be clearly disclosed in the Acknowledgments section.)



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