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Title:	Benzothiazole-Linked Metal-Free Covalent Organic Framework Nanostructures for Visible-Light-Driven Photocatalytic Conversion of Phenylboronic Acids to Phenols
Authors:	Nailwal, Yogendra (/jspui/browse?type=author&value=Nailwal%2C+Yogendra)
Keywords:	Sulfur Irradiation
Issue Date:	2021
Publisher:	ACS Publications
Citation:	ACS Applied Nano Materials, 4(11), 11732–11742.
Abstract:	Herein, we have reported two benzothiazole-linked covalent organic framework nanostructures (BTZ-BCA-COF and BTZ-TPA-COF), which have been prepared via a highly efficient one-pot, multicomponent transition-metal-free C–H functionalization and oxidative annulation synthetic strategy and employing elemental sulfur as one of the key components. These prepared COFs are highly crystalline in nature, have high surface area, and are chemically stable. These COFs exhibit light-harvesting capacity as a photosensitizer for visible-light-assisted “carbon–boron” bond cleavage with a high functional group tolerance of the substrates. In order to acquire in-depth understanding about the mechanistic pathway involved and for comparison in photocatalytic performance, we have performed in situ electron paramagnetic resonance and studies. Our contribution sheds light on exploration of elemental sulfur to extended π -conjugation network-based photocatalysts, followed by instigating their structural uniqueness–photocatalytic activity relationship.
Description:	Only IISER Mohali authors are available in the record.
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