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New Hole Transporting Materials for Perovskite Solar Cells

Guest Editor:

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Message from the Guest Editor

A critical component in the PV system is the hole transporting material (HTM), which is essential for extracting the positive charges from the light absorber to the electrode.

Additionally, even though perovskite technology can overcome the current limits on PV manufacturing, it must comply with a lifetime expectation comparable to silicon-wafer based modules. However, due to the low conductivity of many HTMs in their pristine form they usually require the incorporation of dopants/additives to the layer, with limited stability. Moreover, perovskite materials suffer from severe decomposition activated by high temperature, ultraviolet light, and contamination from the environment. Therefore, not only are HTMs necessary to efficiently extract the photogenerated carriers at a low material cost, but also the surface passivation at the HTM interface could become a decisive factor to make this technology market-viable.

In this Special Issue, we would like to cover all important aspects concerning novel HTMs applied to perovskite PV, including photophysical investigations, studies on molecular interactions and aggregate formations, as well as innovations in solar cell architectures.



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Special Issue



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Message from the Editor-in-Chief

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