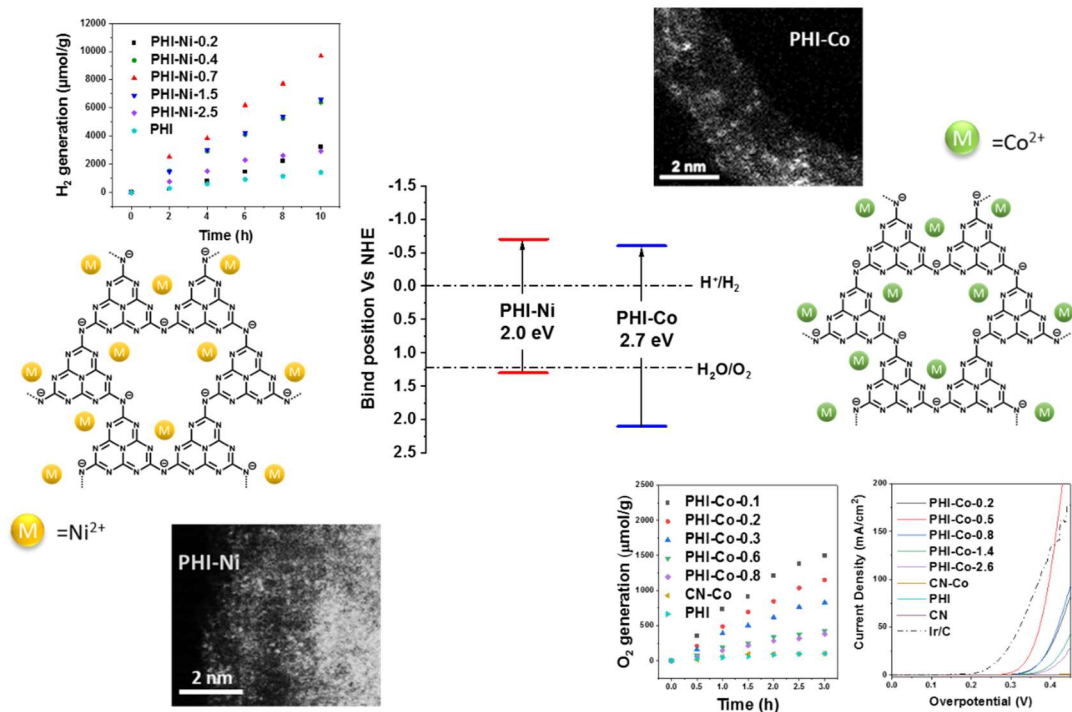


Transition metal intercalated poly(heptazine imides) for electro/photocatalytic water splitting

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Poly(heptazine imide) is an ionic carbon nitride. Its organic zeolite nature enables it to host various alkali-earth-metal and transition-metal cations in its polymeric lattice. Here, a facile salt-melt assisted method was developed to introduce controllable type and amount of metal cations to the PHI backbone. The cobalt intercalated poly(heptazine imide) (PHI-Co) was proved to be a highly active OER electrocatalyst, and in the meantime, it showed outstanding activity in visible-light-driven photocatalytic water oxidation. The nickel intercalated poly(heptazine imide) (PHI-Ni) is a high-performance photocatalyst for visible-light-driven hydrogen evolution.