Carbon supported perovskite-like CsCuCl$_3$ nanoparticles: A highly active and cost-effective heterogeneous catalyst in the hydrochlorination of acetylene to vinyl chloride

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Supporting information
**Syntheses of unsupported CsCuCl\(_3\)**

Cesium cupric chloride (CsCuCl\(_3\)) was synthesized in an aqueous solution. The Cs precursor, CsCl, was weighted and dissolved in the deionized water, then the equal molar CuCl\(_2\)\(\cdot\)2H\(_2\)O was added into CsCl solution. After full stirring and dissolving, set the solution quietly at room temperature. CsCuCl\(_3\) crystals readily grew from the solution. After adequate 12h growth, dark yellow CsCuCl\(_3\) crystals can be obtained.

![Fig. S1 The preparation procedure of CsCuCl\(_3\) crystals](image)

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Figure S2 H₂-TPR analysis of unsupported CuCl₂ and CuCsCl₃ crystals