Microwave-assisted synthesis of graphene-Prussian Blue networked nanocomposites for electrocatalysis - DTU Orbit (08/11/2017)

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There has been a great deal of interest recently in Prussian blue functional graphene. Due to they displayed advantage of both Prussian blue and graphene, we presented a one-pot and green method to synthesize interlocked graphene-Prussian Blue nanocomposites. Considering that graphene oxide (GO) has shown the property as electron acceptor, Fe^{2+} as reduced agent was applied to reduce GO without toxic group in low temperature and under mild environment., high quality Prussian blue cube without coordinated water was prepared and in same step. Reduce graphene oxide was functionalized by high Prussian blue cube in reduced process, and high quality Prussian blue cubes are easily combined with rGO by chemical bond, it shown more stable and highly distribute. Obtained reduced graphene oxide–PB composite (rGO-PB) was characterized by UV-vis, XRD, Raman, SEM, TEM, and electrochemistry method. This kind materials displaying high performance when was used for electrocatalytic reduction H_2O_2.

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