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Electrostatic adsorption-microwave synthesis of palladium nanoparticles on graphene for improved cross-coupling activity

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Highlights

- New method based on SEA and MW for Pd-G catalysts for Suzuki reactions is presented
- Improved activity of SEA-MW Pd-G catalysts vs. commercial Pd-C catalysts is achieved
- High catalytic activity of Pd-G by SEA-MW method is alluded to the G vacancy defects
- Three routes of microwave induced Pd-graphene defect formation are proposed
- Oxygen content of graphene is linked to Pd-defect formation and catalytic activity

Graphene materials as catalyst supports have shown tremendous promise for improving catalytic activity. Pd nanoparticles supported by graphene defects have been shown to improve catalytic activity in Suzuki reactions, but

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