

## Mechanical exfoliation of graphite into graphene using Taylor–Couette flow

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Development of a new mechanical exfoliation method to produce a large quantity of defect-free graphene is crucial to extend the application of graphene in various fields. In this work, we suggest a new exfoliating method using Taylor–Couette flow for a bulk production of few-layered graphene which has a low degree of defect. A graphite solution with a surfactant SDS (sodium dodecyl sulfate) is mixed in the gap between two coaxial cylinders and this results in a mono / few-layered graphene with less defects. Prepared graphene was characterized by Raman spectroscopy and XPS (X-ray photoelectron spectroscopy). This Taylor–vortex based mechanical method has a great potential for the industrial scaled-up production of a low defect graphene.