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# Structural insights into photocatalytic performance of carbon nitrides for degradation of organic pollutants

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## Abstract

Degradation of organic pollutants has a large environmental impact, with graphitic carbon nitride (g-C<sub>3</sub>N<sub>4</sub>) being a promising metal-free, low cost, and environment-friendly photocatalyst well suited for this purpose. Herein, we investigate the photocatalytic performance of g-C<sub>3</sub>N<sub>4</sub>-based materials and correlate it with their structural properties, using three different precursors (dicyandiamide, melamine, and urea) and two heating processes (direct heating at 550 °C and sequential heating at 300 and 550 °C) to produce the above photocatalysts. We further demonstrate that sequential heating produces photocatalysts with grain sizes and activities larger than those of the catalysts produced by direct heating and that the use of urea as a precursor

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