Cobalt-Catalyzed Regioselective Photochemical Synthesis of 1H-Tetrazoles

**Significance:** A cobalt-doped polymeric graphitic carbon nitride catalyst (Co@g-C₃N₄) was prepared by calcination of urea followed by treatment with Co(OAc)₂·4H₂O in aqueous methanol (eq. 1). Co@g-C₃N₄ catalyzed the reaction of aldehydes with sodium azide under visible-light irradiation and air to give the corresponding 5-substituted 1H-tetrazoles in up to 95% yield (eq. 2). The authors propose an isocyane intermediate, formed through a Co@g-C₃N₄-induced photocatalytic 1,2-phenyl migration from C to N.

**Comment:** Co@g-C₃N₄ was characterized by means of SEM, XPS, XRD, FTIR, UV-Vis, EDX, TEM, and photoluminescence analyses. In the reaction of 4-chlorobenzaldehyde with sodium azide, the catalyst was recovered by filtration and reused four times without significant loss of its catalytic activity.