عنوان فارسی مقاله:
اکسیداسیون هوازی ناشی از نور با الکل در یک سیستم فتو کاتالیستی TEMPO و TiO2 حساس به رنگ

عنوان انگلیسی مقاله:
Visible-Light-Induced Aerobic Oxidation of Alcohols in a Coupled Photocatalytic System of Dye-Sensitized TiO2 and TEMPO

توجه!
این فایل تنها قسمتی از ترجمه می‌باشد. برای تهیه مقاله ترجمه شده کامل با فرمت ورد (قابل ویرایش) همراه با نسخه انگلیسی مقاله، اینجا کلیک کنید.
Experimental Section
Oxidation of alcohols: A mixture of the alcohol (0.1 mmol), AR/TiO₂ (8 mg, containing 6.5 × 10⁻⁴ mmol AR), and TEMPO (0.002 mmol) in benzotrifluoride (BTF) (1.5 mL) was transferred into a 10 mL Pyrex bottle. The container was filled with pure oxygen at a pressure of 0.1 MPa. The mixture was stirred under irradiation from a 500 W halogen lamp with a light filter to cut off light of wavelength < 450 nm. After the reaction, the reaction mixture was filtered through a membrane with pore diameter of 20 μm and then analyzed with a HITACHI Gas Chromatograph (GC 3900). The structures of the products were confirmed by comparison with standard samples and by GC-MS (Thermo-Finingan; Trace 2000/Trace DSQ).

ESR experiments were conducted with a Bruker EPR ELEXSYS 500 spectrometer equipped with an in situ irradiation source (a Quanta-Ray Nd:YAG laser system with λ = 532 nm). The same quartz tube was used for all the measurements to minimize errors.