

# Furan-Containing *gem*-Bromonitroethenes: Synthesis and Reaction with Morpholine

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**Abstract**—The first time the representative of furan-containing *gem*-bromonitroethenes 5-nitro-2-(2-bromo-2-nitro-ethenyl)furan was synthesized by bromination of 5-nitro-2-(2-nitroethenyl)furan followed by dehydrohalogenation of the dibromide. Morpholine adducts of the synthesized  $\beta$ -substituted *gem*-bromonitroethene and its analog with a 5-bromo-2-furyl substituent were obtained. The structures of the *gem*-bromonitroethenes and aza adducts were characterized by spectral methods (IR, UV,  $^1\text{H}$ , and  $^{13}\text{C}$ –{ $^1\text{H}$ } NMR, including  $^1\text{H}$ – $^{13}\text{C}$  HMQC and HMBC).

**Keywords:** furan, *gem*-bromonitroethene, morpholine, nucleophilic addition

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