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Title:

Facial Stereoselectivity of Diels-Alder Reaction on 3,8-Dioxapentacyclo[8.2.1.0^{2,9}.0^{4,12}.0^{7,11}]-5-tridecene

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Abstract: (Your abstract must use **Normal style** and must fit in this box. Your abstract should be no longer than 300 words. The box will 'expand' over 2 pages as you add text/diagrams into it.)

As part of a program that involves the synthesis, chemistry, and applications of new heterocyclic cages, we report here the facial stereoselectivity of Diels-Alder reactions on 3,8-dioxapentacyclo[8.2.1.0^{2,9}.0^{4,12}.0^{7,11}]-5-tridecene **1** with dienes. Diels-Alder reaction of the title compound **1** with cyclopentadiene, 1,3-cyclohexadiene isoprene, isobenzofuran, and benzosultine in xylene at 120 °C exclusively gave the *anti* cycloadditions **2**, **3**, **4**, **5**, and **6** in good yields, respectively. The stereochemistry of the cycloadditions **2-6** was fully characterized by H-H COSY and NOE experiments. The stereochemistry of compounds **5** and **6** was also confirmed by X-ray analyses.