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Crystal Structure of α -Nitro-*trans*-stilbene. Carly S. Anderson¹, Gary W. Breton¹, Edwin D. Stevens², and Kenneth L. Martin¹, ¹Dept. of Chemistry, Berry College, Mt. Berry, GA, ²Dept. of Chemistry, Univ. of New Orleans, New Orleans, LA.

The compound *cis*-3,4-diphenyldiazetidine-1,2-dioxide thermally decomposes, a minor biproduct of which is α -nitro-*trans*-stilbene. 5688 Mo- K_{α} reflections were measured at 150 K via Bruker *SMART* 1-K CCD single-crystal diffractometer. 4 C₁₄H₁₁NO₂ molecules are found in the unit cell with parameters: $a = 16.262(3)$ Å, $b = 6.305(1)$ Å, $c = 12.710(3)$ Å, $\alpha = 90^{\circ}$, $\beta = 118.22(3)^{\circ}$, and $\gamma = 90^{\circ}$. There is sufficient evidence for a C-centered lattice, but determining the precise space group is problematic due to the extensive disorder of the molecules throughout the lattice – the central C=C may be found in two different orientations between the phenyl rings. Of structural importance is that the phenyl substituents are *trans* on the central C=C. Using the Cc space group, the *R*-factor was found to be 0.0649 for the 1797 strongest reflections. Using the C2/c space group, the *R*-factor was a higher value of 0.0879 for the strongest 967 reflections. After modeling the structure using both Cc and C2/c space groups, geometric considerations and comparison of *R*-factors demonstrated the Cc space group to be a better model for the compound. The structure was solved and refined by full-matrix least-squares method via *SHELXTL V 5.1*.