

## **Solvent effect on the volume of the DielsAlder reaction between tetracyanoethylene and trans,trans-1,4-diphenyl-1,3-butadiene**

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### **Abstract**

From the partial molar volumes of tetracyanoethylene, trans,trans-1,4-diphenyl-1,3-butadiene, and their Diels-Alder adduct, the volumes of the reaction in a series of solvents at 25°C (cm<sup>3</sup> mol<sup>-1</sup>) were calculated: in dioxane, -26.4; in chloroform, -34.9; in ethyl acetate, -34.5; in acetonitrile, -4.4; in cyclohexanone, -34.0; in 1,2-dichloroethane, -31.8; in benzene, -26.9; in toluene, -24.5; in o-xylene, -21.1; and in mesitylene, -16.9. The solvent effects on the activation and reaction volumes and on the partial molar volumes of the reactants, activated complex, and adduct were discussed.

<http://dx.doi.org/10.1023/A:1015456003857>

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