

Table 9.4 Examples of Transition-State Analogues

Enzyme	Reaction ^a	Increased affinity of transition-state analogue
Triose phosphate isomerase ^b		7.5×10^2
Glucose 6-phosphate isomerase ^c		1.0×10^3
Oxaloacetate decarboxylase ^d		3.5×10^3

TS analog resembles TS of substrate in enzyme catalyzed rxn same electronic & structural character but stable molecule

^a The reaction catalyzed by the enzyme is given with the presumed structure of the transition state in brackets; below it is the structure of the transition-state analogue. The dissociation constants used to calculate the increased affinity of the transition-state analogue are given below the ligands.
^b From R. Wolfenden, *Nature* 223:704-705 (1969); F. C. Hartman et al., *Biochemistry* 14:5274-5279 (1975).
^c From J. M. Chirgwin and E. A. Noltmann, *J. Biol. Chem.* 250:7272-7276 (1975); P. J. Shaw and H. Muirhead, *FEBS Letters* 65:50-55 (1976).
^d From A. Schmitt et al., *Hoppe-Seylers Z. Physiol. Chem.* 347:18-34 (1966).