

TABLE 4.2

## Rates of Some Enzymatic Reactions and Some Transport Processes

System	Turnover number <sup>b</sup> (sec <sup>-1</sup> )	Temperature (°C)
Enzyme reaction <sup>a</sup>		
Carbonate dehydratase	10 <sup>6</sup>	
Acetylcholinesterase	10 <sup>4</sup>	
Urease	10 <sup>4</sup>	
Chymotrypsin	10 <sup>2</sup> –10 <sup>3</sup>	
Carboxypeptidase	10 <sup>2</sup>	
Transport process <sup>c</sup>		
Glucose (human red cells)	600	20
Galactose (human red cells)	900	20
Chloride (human red cells)	200	0
Phosphate (human red cells)	1.5	0
Uridine (human red cells)	2320	37
Lactose ( <i>Escherichia coli</i> )	10	25
Na/K pump (kidney)	140	37

<sup>a</sup> From C. R. Cantor and P. R. Schimmel, "Biophysical Chemistry." Freeman, New York, 1986.

<sup>b</sup> The maximum velocity of an enzymatic or transport reaction divided by the number of enzyme or transporter molecules present. It is the maximum velocity per unit molecule of enzyme or transporter.

<sup>c</sup> From Stein (1986).