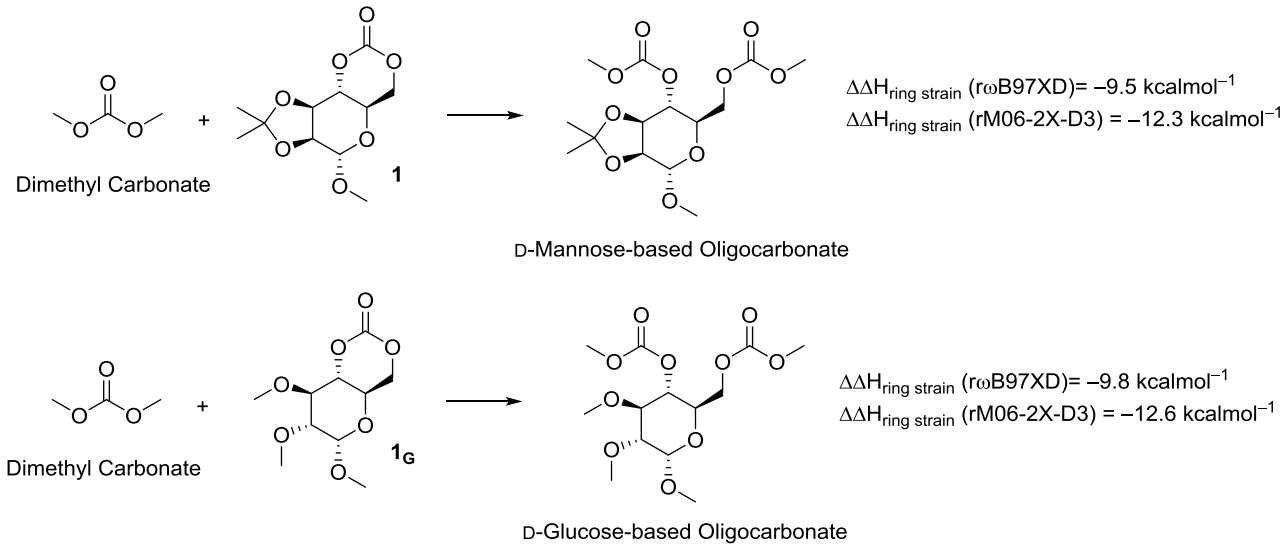
Ring-opening Thermodynamics of Monomer 1



***Scheme 1**:* Computed enthalpies of the isodesmic reactions between dimethyl carbonate and D-mannose based monomer **1** or D-glucose based monomer $\mathbf{1_G}$.

	Functional: rωB97XD		*Functional: rM06-2X-D3*	
Structure	H *(Hartree)*	*ΔΔH (kcalmol–1)*	H *(Hartree)*	*ΔΔH (kcalmol–1)*
Dimethyl carbonate (DMC)	–343.512806	-	–343.485841	-
D-Mannose based monomer **1**	–955.076703	-	–955.013129	-
D-Glucose based monomer **1G**	–916.946941	-	–916.884043	-
*DMC + **1***	*–1298.589509*	*0.0 (reference)*	*–1298.49897*	*0.0 (reference)*
D-Mannose based oligocarbonate	–1298.604623	–9.484171026	–1298.518514	–12.2640359
*DMC +**1G***	*–1260.459747*	*0.0 (reference)*	*–1260.369884*	*0.0 (reference)*
D-Glucose based oligocarbonate	–1260.475298	–9.758392459	–1260.389989	–12.61606845

***Table 1**:* Computed Free Gibbs Energies at the rωB97XD or rM06-2X-D3/6-311+g(2d,p)/cpcm=dichloromethane/298K level of theory.