## CHEM106 Quiz 6

Please show all equations, all substitutions, all units, and all work to receive any credit

1.	Drug A has a lower potency than drug B which has a lower potency than drug C. Drug B is a partial agonist while drugs A and C are full agonists.
	a. On the same graph, plot and clearly label dose-response curves for all three of these drugs. Clearly show the respective doses at which each of these drugs would have 50% of their respective maximum biological effects.
	b. Define what is meant by $K_d$ , draw the chemical reaction equation that it represents and predict relative $K_d$ values for drugs A, B, and C. Fully support and explain the key reasons for this prediction.
2.	Explain how an inverse agonist works and what effect it has on the receptor.
3.	Draw the skeletal structure for a steroid molecule and fully itemize and explain the sequence of steps involved in the mechanism of actions for steroids.
4.	Draw the completely Lewis structure for dopamine in its predominant form at physiological pH; with the exception of aromatic rings, show all bonds, all atoms and all lone pairs of electrons.