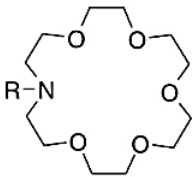# How to be a good Host?

Elementary Problem 1 - 10 points

Deadline: 19th August, 9 PM IST

Experimentally determined Log (K_{11}) values (binding constants for 1:1 binding event in methanol at 25 degree Celsius) for different cationic guests by a heterocyclic host (structure shown below) are given in the following table. Point out the **major** trends in variation of the binding constant and suggest probable justifications behind those.

	Log K_{11}			
	Na^+	K^+	$NH_4{}^+$	Ca^{2+}
R = H	2.69	3.98	–	3.96
R = CH_2CH_2OMe	4.58	5.67	4.21	4.34
R = $(CH_2CH_2O)_2Me$	4.33	6.07	4.75	4.23
R = $(CH_2CH_2O)_3Me$	4.28	5.81	4.56	4.11
R = $(CH_2CH_2O)_4Me$	4.27	5.86	4.40	4.13
R = $(CH_2CH_2O)_5Me$	4.22	–	4.04	4.11