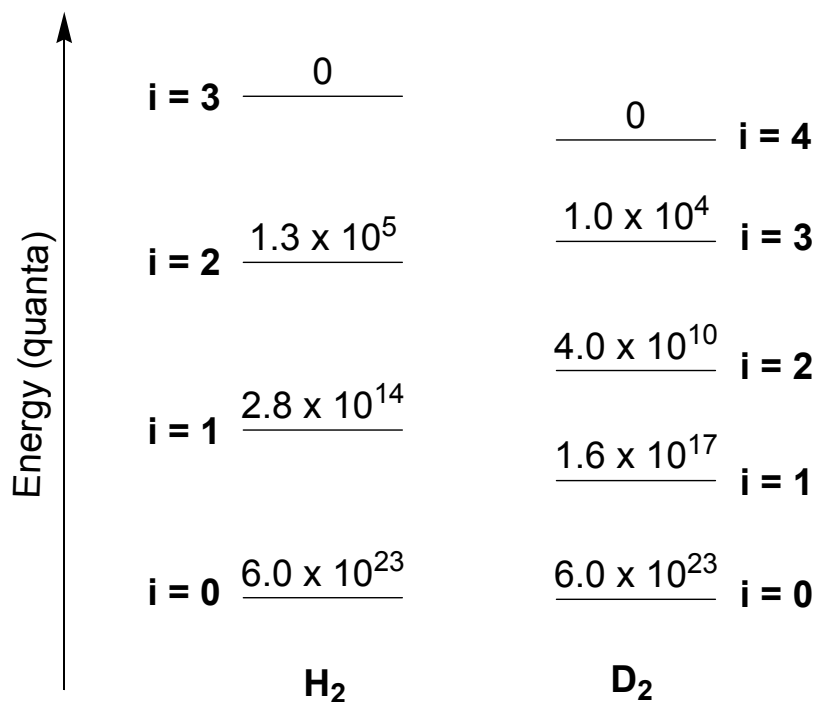


What is the most probable distribution of vibrational energy at 298 K?  
 (Assume we have 1.0 mol of H<sub>2</sub> or 1.0 mol of D<sub>2</sub>)



## Ways to Store Energy in Matter: A Summary

Type of Energy	$\Delta E$ (J)	Type of Light Matching $\Delta E$	How Many Levels Populated at 298 K?
Electronic	$10^{-18}$	UV/Visible	1
Vibrational	$10^{-20}$	Infrared	~5
Rotational	$10^{-23}$	Microwave	~500
Translational (in ~1 L box)	$10^{-40}$	<u>Long-Wave</u> Radio	~ $10^{20}$

Going down the table → increasing effectiveness in dispersing energy