

Chem 312

Spring 2008

Grading Rubrics for Exp 3

(+1) if very well-written
(true for 2 out of 7 reports)

low 14

mean 20.6

high 25

(out of 25)

- 2 Switched $H^{35}Cl$ and $H^{37}Cl$ throughout
- 2 Wrong formulas for D'' and D'
- 1 Wrong k
- 1 Didn't use derived $\tilde{\nu}_0$ to calculate k 's
- 1 Used wrong μ in calculating R 's
- 2 Used wrong μ throughout
- 1 No plots of $\tilde{\nu}$ vs. m in paper
- 1 No numerical results in paper
- 1 No labeled spectrum
- 2 No discussion of why $\uparrow R$ with $\uparrow v$
- 1 Discussion of $\uparrow R$ with $\uparrow v$ attributed to (only) centrifugal distortion ($\uparrow v$ doesn't necessarily mean $\uparrow J$); no mention of Morse vs. HO potentials
- 2 No discussion of R_e for $H^{35}Cl$ vs. $H^{37}Cl$
- 2 No treatment of Kratzer
- 1 Claiming our $k = 4\pi^2 \mu \nu_0^2$ is purely harmonic (it's not, since ν_0 accounts for anharmonicity) would make our k lower than Atkins' (also not true)
- 2 No discussion of discrepancy in k