

CHEM 321: LAB REPORT GRADING RUBRIC - RESULTS AND DISCUSSION SECTION FOCUS

COMPONENT		BELOW STANDARD (+0)	MEETS STANDARD (+1)	EXCEEDS STANDARD (+2)
CONTENT – descriptive title		missing or vague	present & appropriate	----
protocol source citation		missing or inaccurate	present & accurate	----
(INTRO) generic purpose of expt		missing/misunderstood	focuses on generic idea	----
basic theoretical background		missing or vague	main points present	thorough & concise explanation
define/explain new techniques introduced in this experiment		missing, or discusses prev learned techniques	concisely describes newly learned techniques	----
mechanism for this reaction (as correctly formatted Figure)		missing or incorrect (format or science)	correctly illustrated	balanced if stoichiometry not one-to-one
(EXPERIMENTAL) overall format	section format	recipe fmt / 1 st person	3 rd person / passive voice	----
	process/science conflict	focuses on process instead of science	focuses on science instead of process	----
	description of routine lab work	excessively detailed	proper format	----
	<i>non obvious</i> steps/equip.	ignores reasons or steps	included with correct reasons / steps	----
repeatable from report		no	yes	----
synthesis	reagents or quantities	missing / not in proper format	all present and given in proper format	----
recovery/purification process		unclear / missing	all properly described	----
Characterization of product	chemical [◊]	missing / vague	protocols given	“meets” + bal. chem.rxn/mechs
	other methods	fails to mention / vague	all are concisely described	ID instruments by model #
(RESULTS / DISCUSSION)	brief review of theory, purpose	missing, vague, inaccurate	present & accurate but little connection with other parts of course	theory & purpose clearly explained; makes connections to other parts of course
yield	mass & % of theory	missing	mass & % given	----
	ex. calc (in appendix)	missing / inaccurate	given / correct	----
discuss reasons for yield < 100 %	due to side product(s)	missing, vague, inaccurate	stated, but lacks theoretical support	“meets” + thoughtful reasoning for side product, incl rxn mech
	other causes	missing, vague, inaccurate	major causes concisely described	----
charact. info	melting/boiling range	missing	given	----
		not compared to pub.	compared to published	----
	chemical character. results / analyses [◊]	missing, vague, inaccurate	given / correct	thorough & scientifically informative
	pertinent IR spectra**	not all present	all present	----
IR analysis		missing / incomplete	present / compared to published spectra**	thorough & scientifically informative
format of tables / IR spectra **		uses incorrect format	uses correct format	----
published info / spectra sources		missing/inaccurate	all accurately cited	----
Summary Statement		missing	states whether or not purpose was met	“meets” plus offers reasonable experimental improvements
PROSE – scientific logic errors (S)		3 or more	0 - 2	----
grammatical errors (G)		2 or more	0 - 1	----
improper word choice (W)		3 or more	0 - 2	----
awkward or verbose (A or V)		3 or more	1 or 2	none
ORGANIZATION – required info		some in wrong sections	all in proper sections	----
flow of ideas within sections		choppy or illogical	mostly smooth & logical	reader guided clearly

**inc. product, starting materials, & side products

◊ needed for cyclohexene (E2 and E1 experiments)

Column totals _____

Lab report journal (1 pt) _____

(“MEETS STD” raw score is _____ Your Raw Score _____ * Norm. Factor _____ = Norm. Score _____ /10