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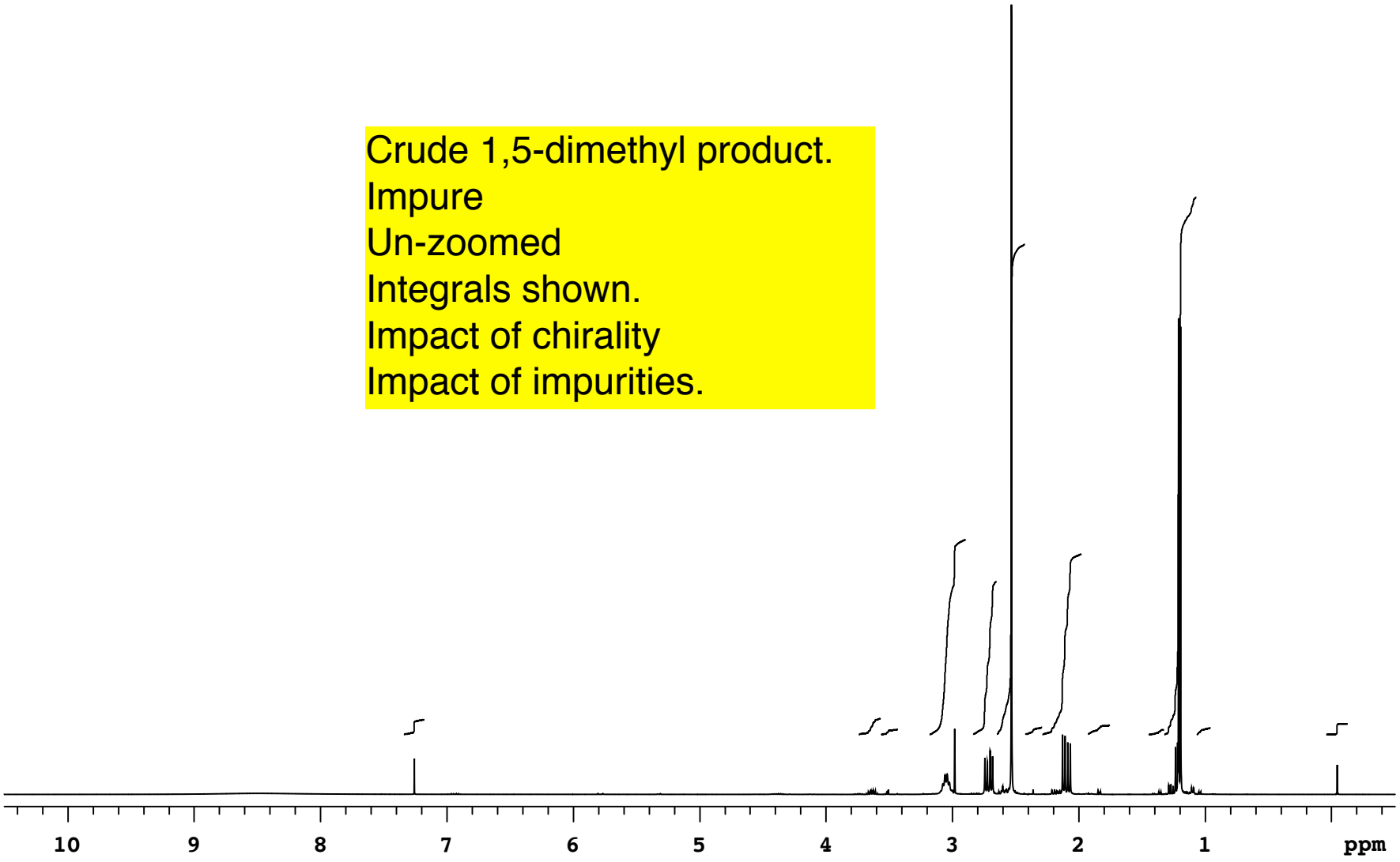
CPJ-39-Starting_Material_1_5-Dimethylpyrazolidinone

Sample Name	**CPJ-39-Starting_Material_1_5-Dimethylpyrazolidinone**	Experiment	**PROTON**	Temperature	**25**	Study owner	**Jasperse**
Date collected	**2019-03-30**	Solvent	**cdcl3**	Spectrometer	**aspect.mnstate.edu-vnmrs400**	Operator	**Jasperse**

Crude 1,5-dimethyl product.
Impure
Un-zoomed
Integrals shown.
Impact of chirality
Impact of impurities.



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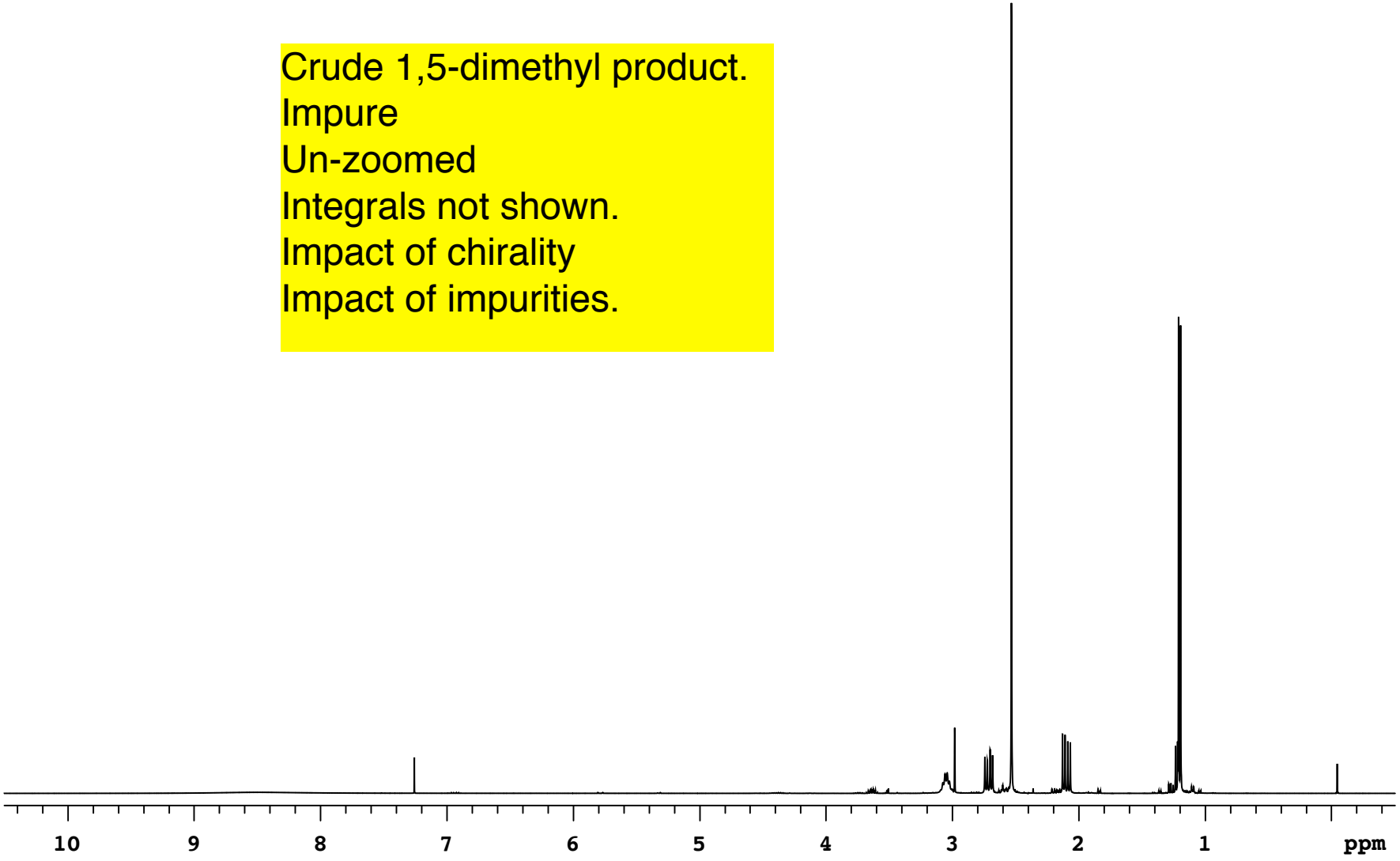
Date collected	**2019-03-30**	Solvent	**cdcl3**	Spectrometer	**aspect.mnstate.edu-vnmrs400**	Operator	**Jasperse**

Crude 1,5-dimethyl product.
Impure
Un-zoomed
Integrals not shown.
Impact of chirality
Impact of impurities.



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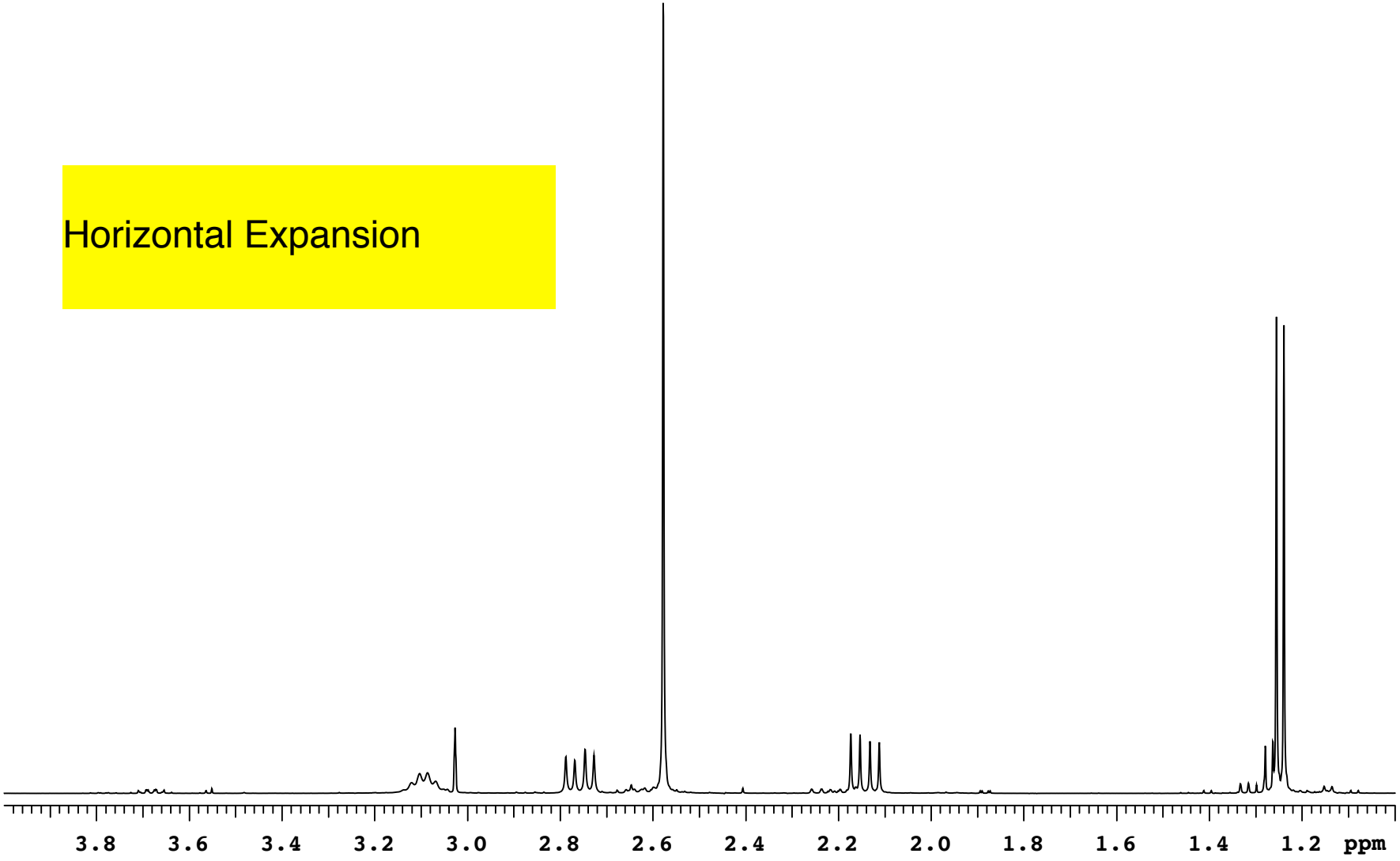
Date collected	**2019-03-30**	Solvent	**cdcl3**	Spectrometer	**aspect.mnstate.edu-vnmrs400**	Operator	**Jasperse**

Horizontal Expansion



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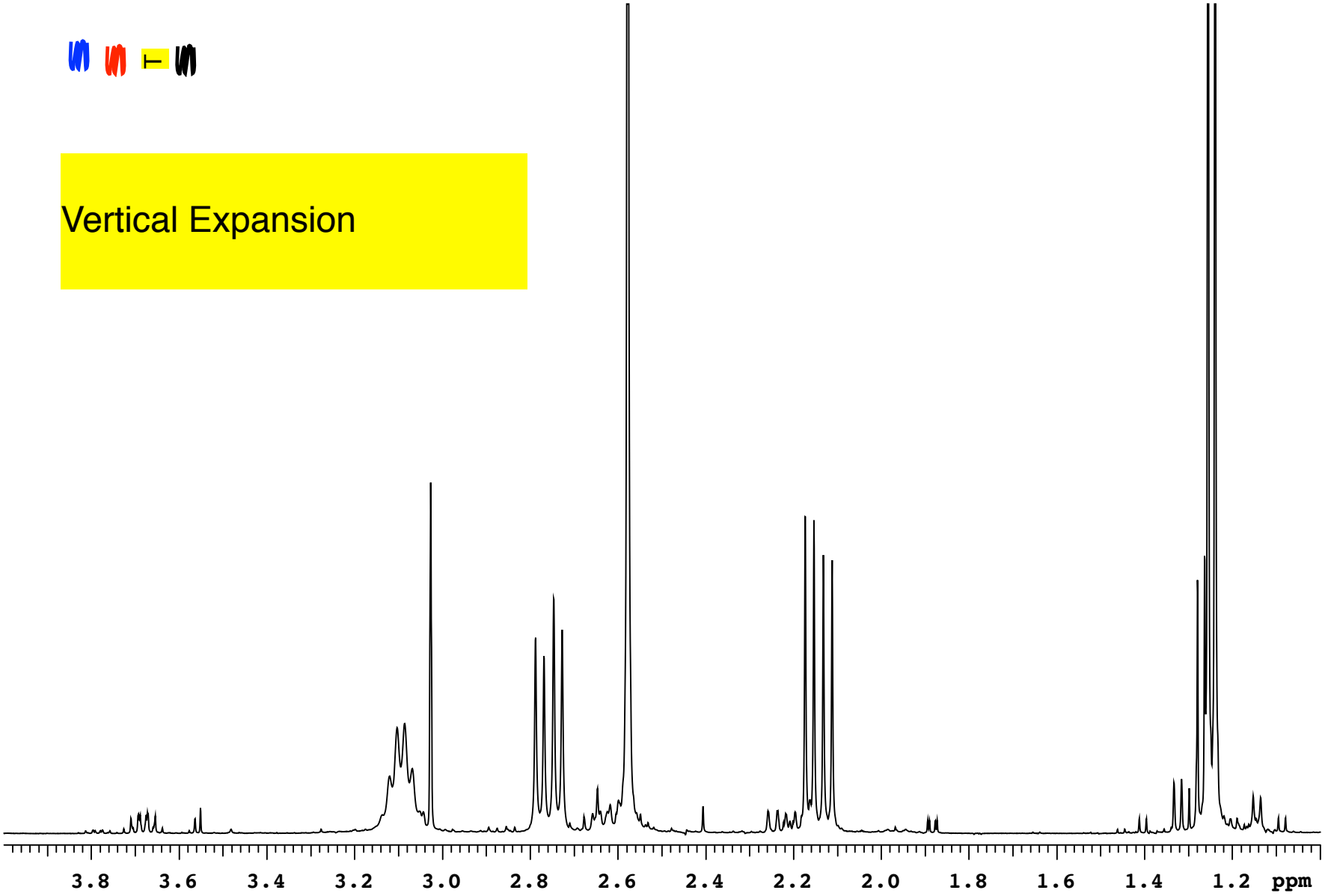
CPJ-39-Starting_Material_1_5-Dimethylpyrazolidinone

Sample Name	**CPJ-39-Starting_Material_1_5-Dimethylpyrazolidinone**	Experiment	**PROTON**	Temperature	**25**	Study owner	**Jasperse**
Date collected	**2019-03-30**	Solvent	**cdcl3**	Spectrometer	**aspect.mnstate.edu-vnmrs400**	Operator	**Jasperse**

Vertical Expansion



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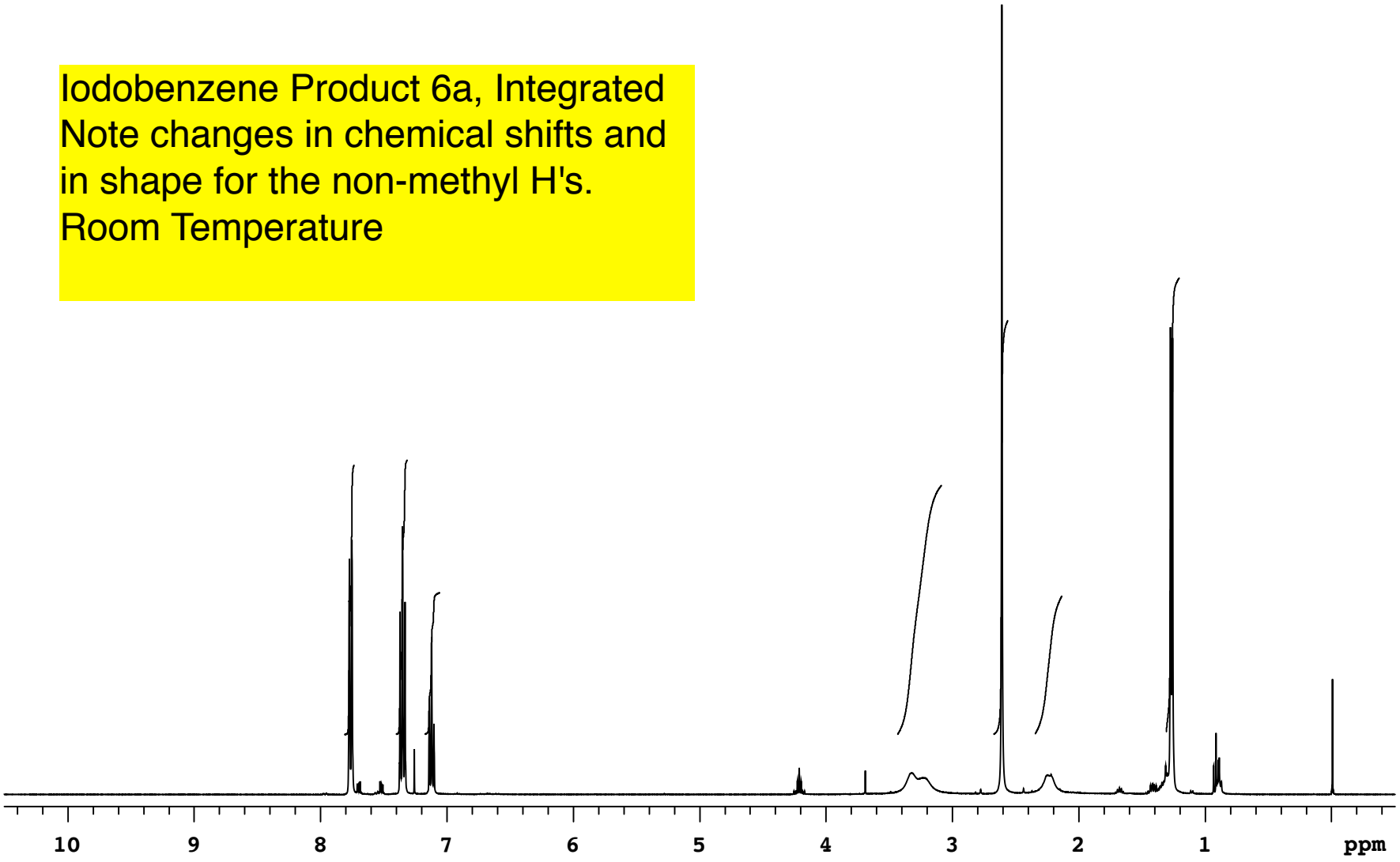
CJ-Product_6a_H-C-HC

Sample Name	**CJ-Product_6a_H-C-HC**	Pulse sequence	**PROTON**	Temperature	**25**	Study owner	**Jasperse**
Date collected	**2021-03-27**	Solvent	**cdcl3**	Spectrometer	**aspect.mnstate.edu-vnmrs400**	Operator	**Jasperse**

Iodobenzene Product 6a, Integrated
Note changes in chemical shifts and in shape for the non-methyl H's.
Room Temperature



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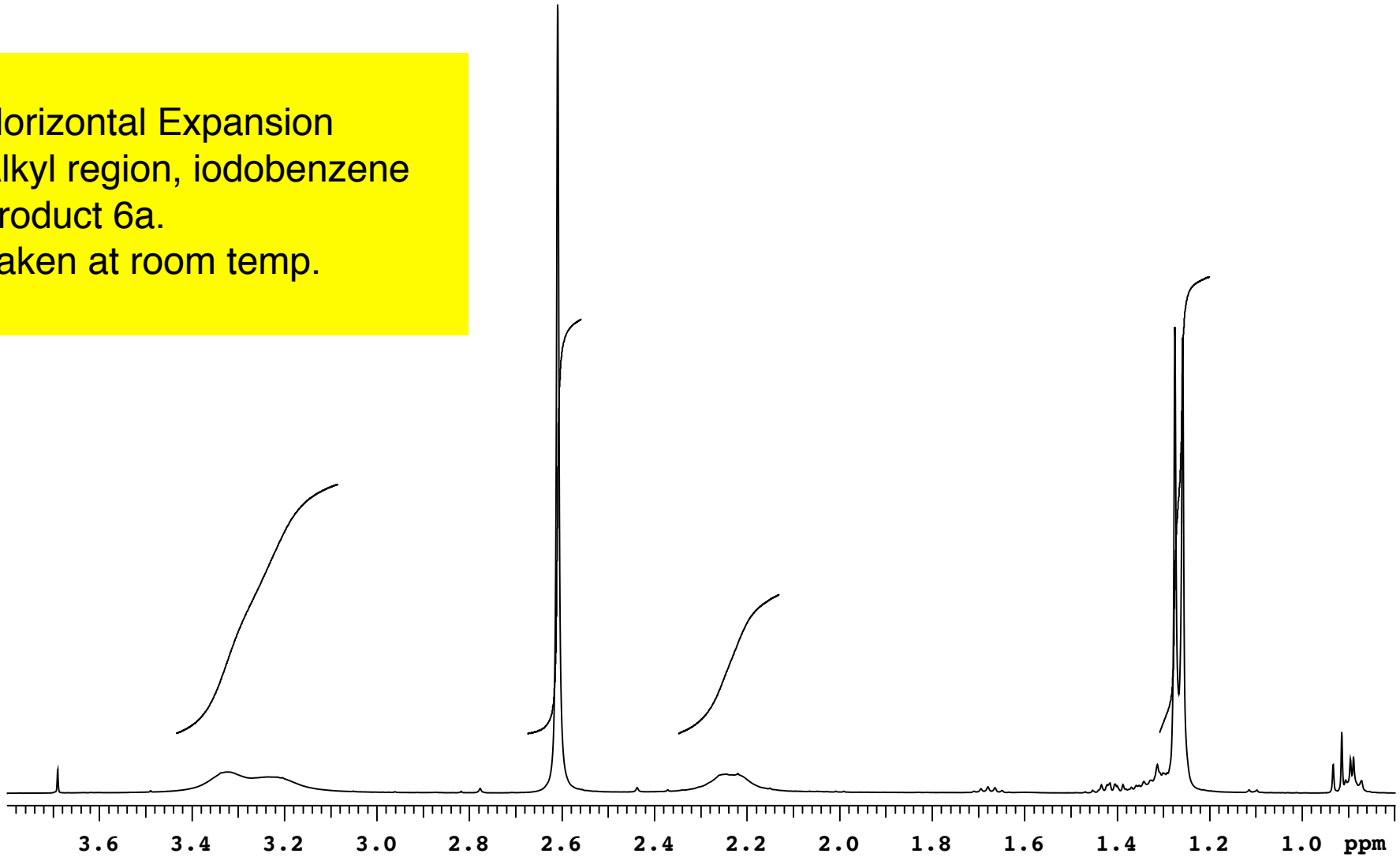
CJ-Product_6a_H-C-HC

Sample Name	**CJ-Product_6a_H-C-HC**	Pulse sequence	**PROTON**	Temperature	**25**	Study owner	**Jasperse**
Date collected	**2021-03-27**	Solvent	**cdcl3**	Spectrometer	**aspect.mnstate.edu-vnmrs400**	Operator	**Jasperse**

Horizontal Expansion
Alkyl region, iodobenzene product 6a.
Taken at room temp.



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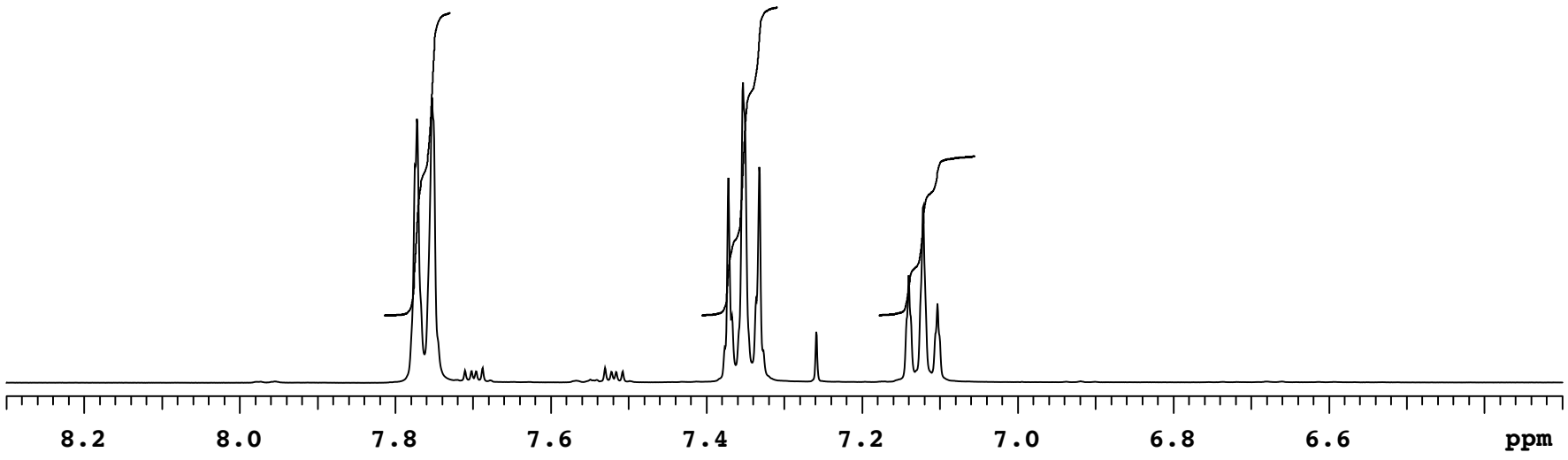
CJ-Product_6a_H-C-HC

Sample Name	**CJ-Product_6a_H-C-HC**	Pulse sequence	**PROTON**	Temperature	**25**	Study owner	**Jasperse**
Date collected	**2021-03-27**	Solvent	**cdcl3**	Spectrometer	**aspect.mnstate.edu-vnmrs400**	Operator	**Jasperse**

Horizontal Expansion
Aryl region, iodobenzene product 6a.



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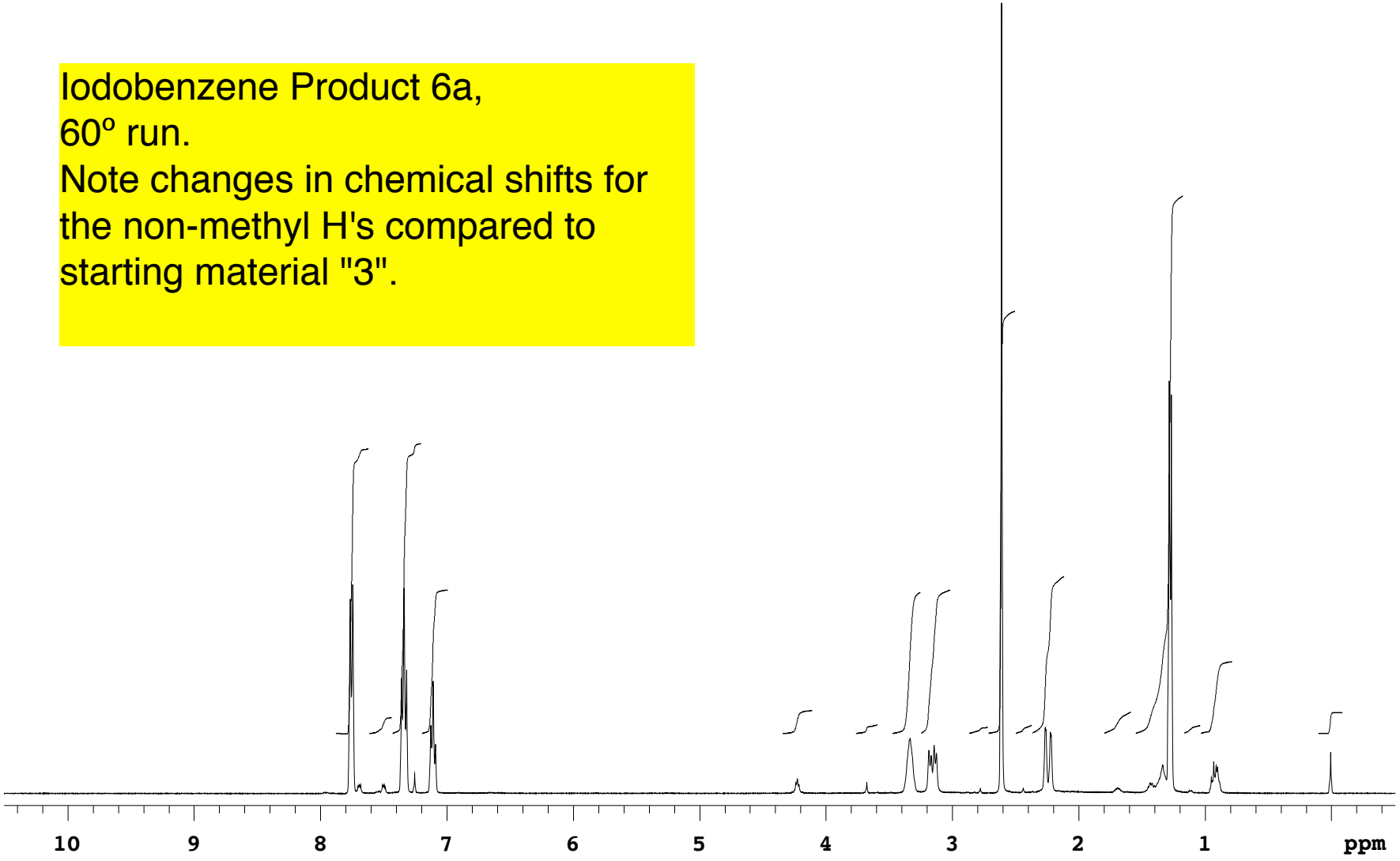
VT_experiment_60_degrees

Sample Name	VT_experiment_60_degrees	Pulse sequence	PROTON	Temperature	60	Study owner	Jasperse
Date collected	2021-03-27	Solvent	cdcl3	Spectrometer	aspect.mnstate.edu-vnmrs400	Operator	Jasperse

Iodobenzene Product 6a,
60º run.
Note changes in chemical shifts for the non-methyl H's compared to starting material "3".



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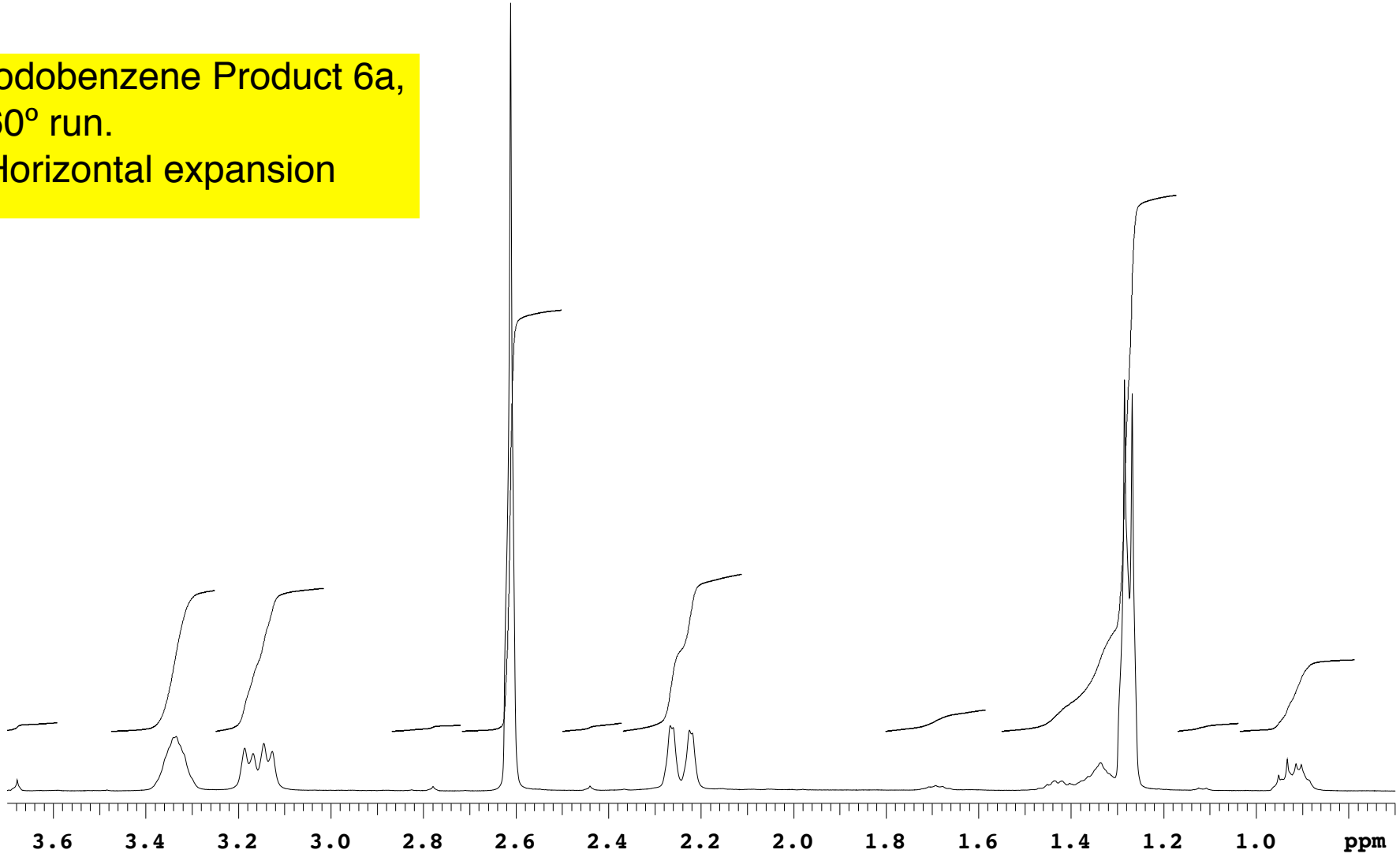
VT_experiment_60_degrees

Sample Name	**VT_experiment_60_degrees**	Pulse sequence	**PROTON**	Temperature	**60**	Study owner	**Jasperse**
Date collected	**2021-03-27**	Solvent	**cdcl3**	Spectrometer	**aspect.mnstate.edu-vnmrs400**	Operator	**Jasperse**

Iodobenzene Product 6a,
60º run.
Horizontal expansion



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CJ-5b_Starting_p-iodotoluene_H_C

Sample Name	CJ-5b_Starting_p-iodotoluene_H_C	Pulse Sequence	PROTON	Temperature	25	Study owner	Jasperse
Date collected	2021-03-27	Solvent	cdcl3	Spectrometer	aspect.mnstate.edu-vnmrs400	Operator	Jasperse

Aryl iodide starting material 5b, 4-iodotoluene.
Notice the pair of 2H doublets in the aryl region.
Other para-substituted iodobenzene will have similar pairs of 2H doublets.

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CJ-5b_Starting_p-iodotoluene_H_C

Sample Name	CJ-5b_Starting_p-iodotoluene_H_C	Pulse Sequence	PROTON	Temperature	25	Study owner	Jasperse
Date collected	2021-03-27	Solvent	cdcl3	Spectrometer	aspect.mnstate.edu-vnmrs400	Operator	Jasperse

1. Aryl iodide starting material 5b, 4-iodotoluene.
2. Notice the pair of 2H doublets in the aryl region.
3. Other para-substituted iodobenzene will have similar pairs of 2H doublets.
4. If you run NMR on starting aryl iodide, and print a zoom-in on aryl region, that should change in the product.
5. Great way to check if your aryl iodide reacted at all, or completely, or perhaps partially but not fully.