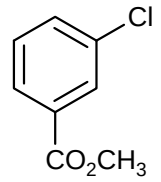
Problem Set 3

Problem R-70C. For each of the structures below, predict the number of carbon signals which will be seen in the room temperature ^{13}C NMR spectrum. Assume that *rotation around single bonds will be fast,* and that there will be *no accidental equivalances*. Use the form: 6 peaks, 2:2:1:1:1:1. For diastereotopic effects (there are a number here) see Section 5-HMR-8.



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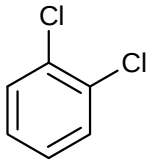

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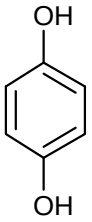

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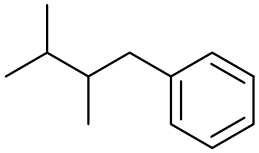

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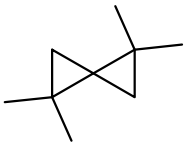

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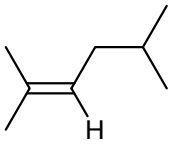

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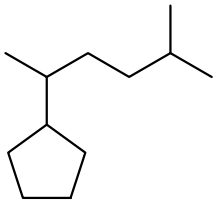

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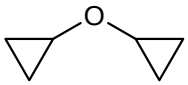

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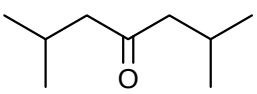

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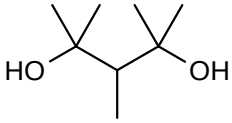

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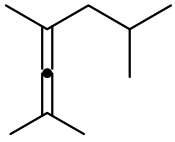

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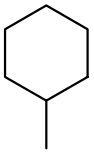

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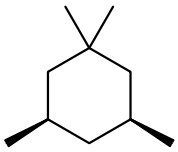

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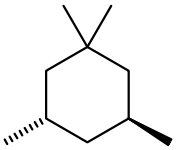

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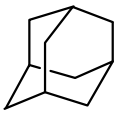

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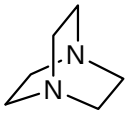

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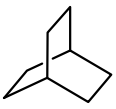

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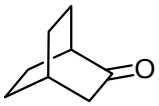

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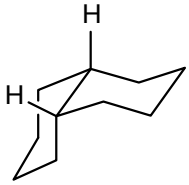

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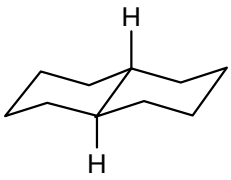

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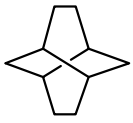

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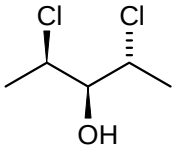

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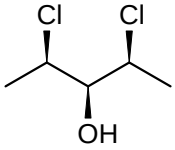

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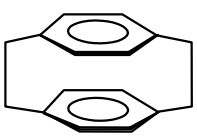

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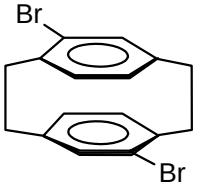

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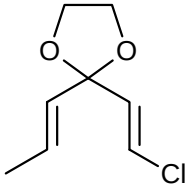

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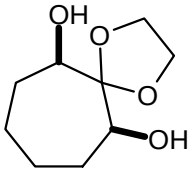

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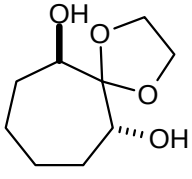

δ _____

Problem Set 3

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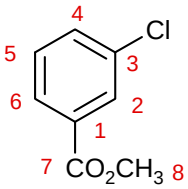
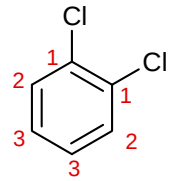


a **8**



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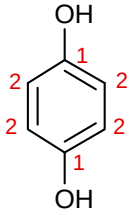

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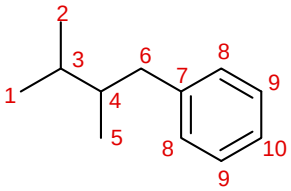

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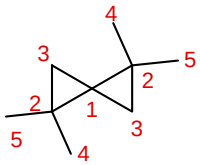

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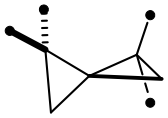

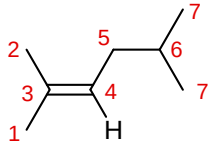

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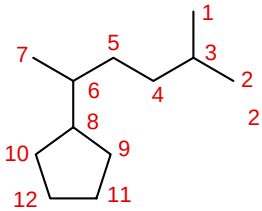

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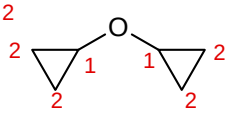

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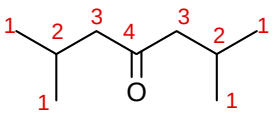

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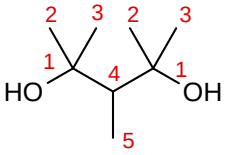

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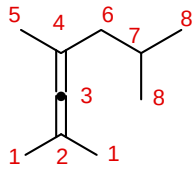
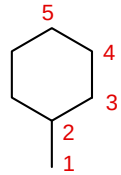


k **8**



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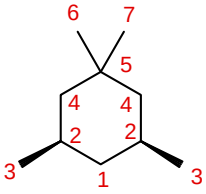

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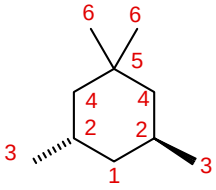
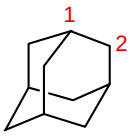


n **6**
C_2 axis



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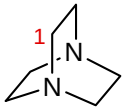

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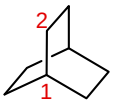
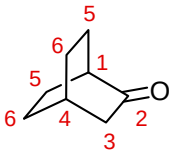


q **2**



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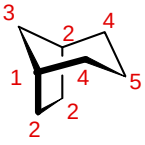

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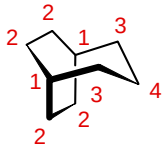
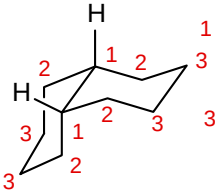


t **4**



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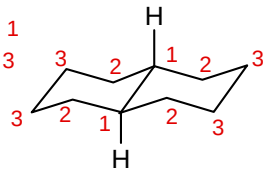

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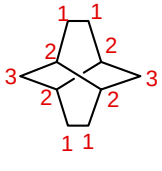
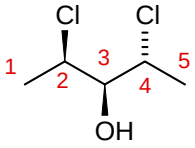
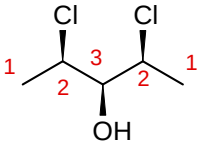
Center of symmetry



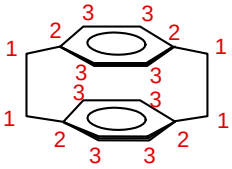
w **3**



x **5**



y **3**
C_2 axis



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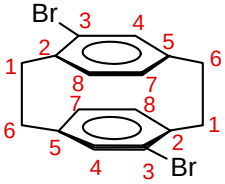
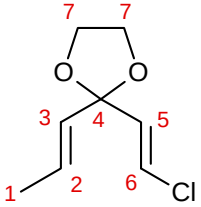


α **8**
Center of symmetry



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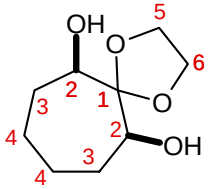
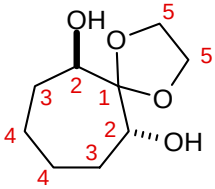


γ **6**



δ **5**
C_2 axis