Recitation Week 7 2/27/13

1. Draw the most stable conformations of these substituted cyclohexanes:

(a) isopropylcyclohexane (here are some chair conformations)

(b) *trans*-1,2-dimethylcyclohexane

(c) *cis*-1,2-dimethylcyclohexane

(d) *cis*-1-*tert*-butyl-3-methylcyclohexane

(e) *trans*-1-*tert*-butyl-3-methylcyclohexane

(f) *trans*-1-ethyl-4-methylcyclohexane

2. Which of these molecules plane of symmetry, and are therefore achiral? Remember that a molecule is chiral if it does not possess a plane of symmetry.

(a) *trans*-1-chloro-3-methylcyclohexane

(b) *trans*-1,2-dichloroethene

(c) 4-chloroheptane

3. Which of these molecules contain chirality centers? Draw the molecules and label each chirality center with an asterisk.

(a) 2-chloropropane

(b) 2-chlorobutane

(c) 2-butanol

(d) 1-butanol

(e) 2-bromo-3-pentanol

(f) 3-methylhexane

(g) 1-bromo-2-methylcyclohexane

(h) 2-chloro-2-butene