Organic Chemistry I
Test 1  Isomers/Resonance Recognition Practice.

Note: You should be able to practice the first page fairly early during the class lectures.
• The second page you won’t be able to process until almost the end, after completing dealing with Newman Projections and Cyclohexane Chair conformations.

For the following pairs, classify the relationship between each pair as either:
• same compound
• structural isomers
• resonance structures
• stereoisomers

Remember, single bonds can rotate, but double bonds can’t.

1. Stereo
2. Structural
3. Structural
4. Same
5. No atom moved
6. Resonance
7. Same
8. Same
9. Same
10. Structural
11. Resonance
12. Structural
13. Structural
14. Same
15. Structural
16. Structural
17. Resonance
18. Resonance
19. Cis
20. Structural
21. Structural
22. Stereoisomers
23. Same
24. Same
For the following pairs, classify the relationship between each pair as either:

- same compound
- structural isomers
- resonance structures
- stereoisomers

25. CH₂CH₃ vs. CH₃CH₂
   - same compound

26. CH₃ vs. iPr
   - structural

27. (Note: review video discussion of this problem in the context of the Newman projections.)
   - structural

28. anti vs. same
   - anti-gauche rotation

29. CH₃ vs. iPr
   - same

30. CH₃ vs. iPr
   - structural

31. cis 1,4 vs. trans
   - same

32. Br vs. Br
   - structural

33. cis vs. trans
   - stereo

34. cis vs. cis
   - same

35. Br vs. Br
   - same

36. cis vs. trans
   - stereo