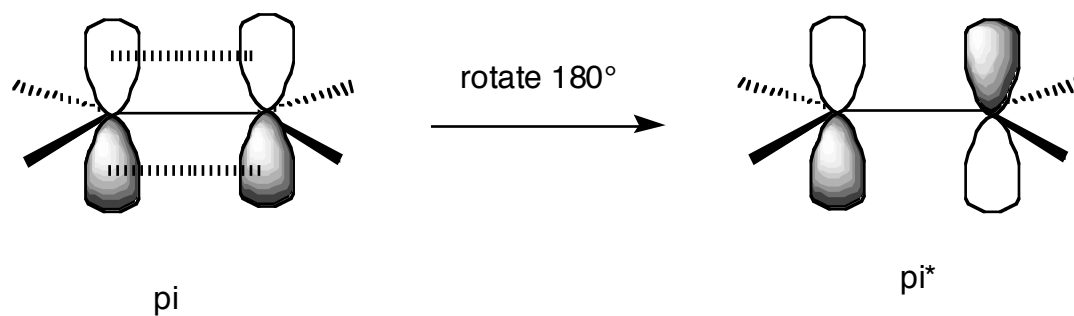


Problem 24, Chemistry 301X - 2006

Not only are there no “dumb” questions, some “dumb” questions are really clever and can teach a lot.

Here's a common one:

If we imagine 180° rotation about a carbon-carbon pi bond as shown below,



will we not generate the antibonding π^* MO through this rotation?

The answer to this question is “no.” Explain why.

Hint: Look carefully at the 90° point.