For the following questions, be sure to reference your answers where appropriate. **For a Journal:** Authors (Last, first initial(s)); *Journal title, year, volume*, inclusive pages. For other sources, use standard MLA or other acceptable format (including web sources).

1. The Chinese Blister Beetle is the source of a variety of natural products that have been used as medicines for nearly 2000 years. One of the compounds is a potent protein phosphatase type 2A inhibitor. What is the name and chemical structure of this compound? Give the reference for the *most recent synthesis* of this compound.

2. In 2004, scientists synthesized several cantharidin analogues in an attempt to find a radiosensitizer toward cancer cells. Their paper appeared in *Int. J. Radiat. Biol.* What is a radiosensitizer? What is the structure of their most effective radiosensitizer? What is its common name? Who was the lead author on the paper?

3. What is the structure of the antiseizure medication \((S)-2-(2\text{-oxopyrrolidin-1-yl})\text{butanamide}\)? Is it optically active? Under what name is this drug marketed? Biochemically, how does it work?

4. What is the structure of spiropentaneacetic acid? How was it synthesized? Why was it synthesized?

5. The molecule shown below was used by Michael J. Prushan to make a polynuclear Cu(II) complex. Cite the reference for this recent paper. What is the I.U.P.A.C. name of this compound? How many other citations referenced this compound?

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