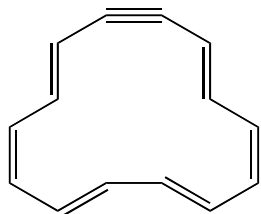


1. The compound shown below was synthesized by Professor I.M. Dimm. Prof. Dimm had expected world renown for making what he thought would be a most unstable compound. Dimm reasoned that with six double bonds and a triple bond in the molecule, there would be 16 π electrons and thus, no aromatic character ($4n$, $n=4$, not $4n+2$). However, he was astonished to find that it was exceedingly stable. Where was his reasoning wrong?



2. Cyclooctatetraene readily reacts with potassium metal to form a dianion. Discuss the electronic structure and geometry of this dianion and explain why it is formed so readily.

