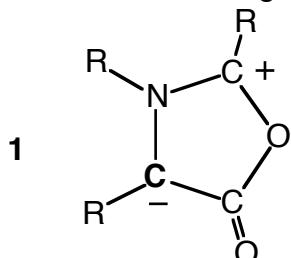


Problem 22, Chemistry 301X- 2006

“Münchnones” **1** belong to a class of compounds known as mesoionic compounds, which cannot be satisfactorily represented by Lewis structures not involving charge separation. Münchnones were first investigated at the University of Munich, hence the name.



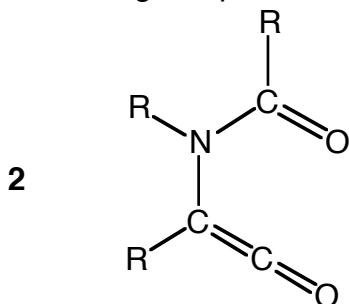
"R" means "anything" - you need not worry about the structure of R

(a) Write a Lewis dot structure for müchnone **1**. That is, fill in the missing electron pairs.

(b) Use the arrow formalism to write six additional resonance structures for müchnone **1**.

(c) What is the hybridization of the ring O, the ring N, and the bold face ring **C** of **1**?

Some reactions of müchnones **1** are thought to proceed through the amidoketene **2**.



(d) Use the arrow formalism to convert müchnone **1** into amidoketene **2**.

(e) Is amidoketene **2** a resonance structure of müchnone **1**? Explain your answer.