The title

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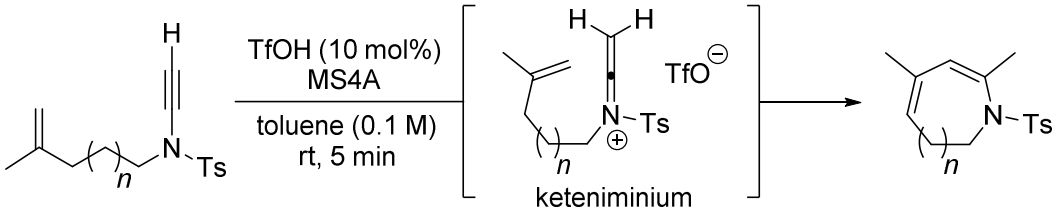
Nitrogen-containing medium rings are important and attractive class of compounds for natural products and pharmaceuticals. However, the synthesis of heterocyclic medium rings remains a challenging task due to entropic and enthalpic factors for cyclization approaches. General strategies to the synthesis of medium rings, such as ring-closing metathesis and the Yamaguchi esterification, are often required precious transition metals or high dilution condition to prevent the undesired dimerization. In this poster session, we would like to present the efficient synthesis of nitrogen-containing medium rings with ynamides catalyzed by a strong Brønsted acid.

We anticipated that cyclization of ynamides **1** would afford the nitrogen-containing medium rings **2** through the highly reactive keteniminium intermediate. After several screening, the cyclization of ynamide **1** occurred with 10 mol% TfOH in the presence of MS4A to gave the 7- and 8-member heterocycles in good yields. It is noteworthy that this reaction instantly proceeded and high dilution is not necessary.



1a (n=1)
1b (n=2)

2a (79%)
2b (68%)