Arsinine is the arsenic analogue of pyridine. It is a relatively unstable molecule, very labile and very sensitive to air, however it is moderately aromatic [1], therefore it should be possible to reinforce its intrinsic aromaticity in order to stabilize the ring yielding a heterocyclic species useful in organic synthesis. There are only two reports about stabilization of arsinines [2] and in both cases the presence of aromatic substituents in positions 2 and 6 is achieved. The aim of this report is to analyse these molecules into a DFT study in order to clarify which are the conditions for a better aromatic status in the heterocyclic ring and also to propose a route for the preparation of many derivatives. The molecules under study are the arsinine itself, the known stable derivatives (see an example in Fig. 1) and other model molecules in which the aromaticity is improved.