A valid plane tree is a word $P$ of length $2n$ paired with a plane tree $S$ with $n$ edges such that $S$ describes a perfect non-crossing matching of the letters of $P$. This object is inspired by molecular biology: RNA is a word in the letters $A, U, G, C$ that folds onto itself. The basic plane tree model of this folding introduced by Heitsch presents the plane tree $S$, we consider whether the word $P$ can fold into that shape. We show that the two types of valid local moves on valid plane trees results in a connected graph, and prove that the graph has a unique sink (source) under type 1 (2) valid local moves. This unique sink (source) is the valid plane tree formed by the greedy algorithm. (Received September 16, 2014)