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Contribution à l'Etude de la Dynamique de quelques Annulènes

THÈSE

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par

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SUMMARY

We have studied with a differential scanning calorimeter the thermal rearrangement of [18]annulene. The energy of stabilization obtained in this way is 37 kcal $mole^{-1}$ (36 kcal $mole^{-1}$ for benzene). This value is compatible with an activation enthalpy of 16.1 kcal $mole^{-1}$ for the conformational mobility of this molecule. We have also done the line-shape analysis of the C^{13} spectrum of [18]annulene and of the F^{19} spectrum of monofluoro[18]annulene.

The line-shape analysis of the ^{1}H spectrum of [24]annulene shows that this annulene exhibits a fast bond shift and a fast conformational mobility. [24]annulene has only one configuration but two conformations.

Tribenzo[12]annulene has only a very fast conformational mobility (as [12]annulene) and its dianion is also mobile. This is the first dianion of a [4n]annulene which is mobile.