Molecular vibrational constants and chemical bonding in five-membered heteratomic compounds

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By means of the force field and mean amplitudes of vibration of furan, thiophene, selenophene and tellurophene molecules, we have concluded that the ground-state aromaticity order in the series is thiophene > tellurophene > selenophene > furan. The reactivi ty of these molecules to the electrophilic substitution follows the order furan > selenophene~ tellurophene > thiophene. © 1985, Taylor & Francis Group, LLC. All rights reserved.