Abstract:

Hydrocarbons including alkenes are in addition to wax esteres, alcohols, ketones and acids one of the main compounds of insect cuticle. Hydrocarbons protect insect body against dry, water and UV radiation. In some species they play an important role in mutual communicative and recognition. Hydrocarbons profile can in some cases serve as fingerprint defining species specificity. Therefore, the position of double bonds in cuticular hydrocarbons is important. This work describes utilization of catalytic hydroxylation with polymer-supported osmium tetroxide as a derivatization technique to determine double bond position. Reaction conditions of hydroxylation and mass spectrometric fragmentation of derivatized alkenes were optimized for standard containing one double bond. These conditions were applied to real samples from the american cockroach *Periplaneta americana* and blowfly *Neobellieria bullata.*