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Title

Quantitative identification of illicit drugs by using SOM neural networks

Source

Abstract

Qualitative identification of THz spectra of illicit drugs using self-organization feature map (SOM) artificial neural network has been demonstrated. In this paper, investigation results show that SOM has quantitatively identified drug mixtures successfully. Based on Beer's law THz spectra data of various drug proportions were made for training dates. After analyzing the clustering algorithm of SOM, we introduced a parameter named shortest distance as a quantitative criterion for identification result. By this parameter, an automatic recognition algorithm has been developed and successfully applied to the content identification of experimental samples. Combined with our previous work, the SOM neural network can be an integrated and effective method in the identification the THz spectra of illicit drugs. [All rights reserved Elsevier]. (14 References).