



## Gas Sensors Based on Electrodeposited Polymers

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Résumé en anglais	<p>Electrochemically deposited polymers, also called “synthetic metals”, have emerged as potential candidates for chemical sensing due to their interesting and tunable chemical, electrical, and structural properties. In particular, most of these polymers (including polypyrrole, polyaniline, polythiophene) and their derivatives can be used as the sensitive layer of conductimetric gas sensors because of their conducting properties. An important advantage of polymer-based gas sensors is their efficiency at room temperature. This characteristic is interesting since most of the commercially-available sensors, usually based on metal oxides, work at high temperatures (300–400 °C). Consequently, polymer-based gas sensors are playing a growing role in the improvement of public health and environment control because they can lead to gas sensors operating with rapid detection, high sensitivity, small size, and specificity in atmospheric conditions. In this review, the recent advances in electrodeposited polymer-based gas sensors are summarized and discussed. It is shown that the sensing characteristics of electrodeposited polymers can be improved by chemical functionalization, nanostructuration, or mixing with other functional materials to form composites or hybrid materials.</p>
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