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Advancement in the field of polymeric membrane ion-selective electrode

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The advancement of polymeric membrane ion-selective electrodes increases the great attention in the field of analytical chemistry. A short core of the fundamental theory is given, highlighting how the electromotive force may be used to evaluate binding constants of the ionophore, and how the selectivity and detection limit are associated to the basic membrane approaches. The recent advances in lowering the detection limits of ISEs, including fresh methodologies of emerging all solid state ISEs, and advances in detecting ultra-small amounts of ions at low concentrations. These progresses have covered the mode to use polymeric membrane based ion selective electrode as in ultra-sensitive affinity bioanalysis in aggregation with nanoparticle. Latest results found that potentiometry relates constructively to electrochemical stripping analysis. Additional new advances with ion-selective electrodes are also defined, as well as the thought of reverse calibration potentiometry, coulometry, pulsed chronopotentiometry, and restricted flash titration with ion-selective membranes to scheme sensors for the direct detection. These changes have promoted the field for stimulating new possibilities and applications.

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