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(54) Title: OPTICAL SENSOR SYSTEM FOR DETERMINING pH VALUES AND IONIC STRENGTHS		
(57) Abstract A method for the independent, reversible, optical determination of the pH value and the ionic strength of an aqueous sample with the aid of two different sensors in accordance with the fluorescence method, in which method two optical sensors, which are each composed of polymers of different structure but each contains the same fluorescent dye and which each consists of a coated material composed of a) a carrier material, to which there is applied b) at least one water-insoluble layer of a polymer comprising at least one hydrophilic monomer (A) from the group of substituted olefins, and c) a proton-sensitive fluorescent dye which is bonded directly or via a bridge group to the spine of polymer b) or which is incorporated in polymer b), are brought into contact with an aqueous test sample, irradiated with exciting light, the fluorescence is measured and the pH values and the ionic strengths are calculated from the measured fluorescence intensities with reference to calibration curves.		

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