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Sequential Injection Systems for Spectrophotometric Water Analysis

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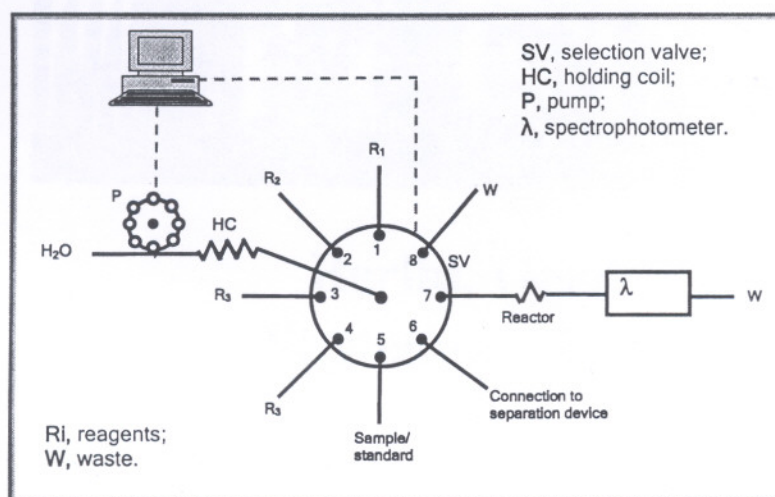
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Water is an essential resource that is being threatened by pollution; therefore, the monitoring of water quality has become an issue of vital importance. Water quality assessment includes monitoring of several parameters among which are physical-chemical properties, major ions and metals. Changes in water composition can be an indicator of pollution or contamination so frequent water analysis is imperative. Some parameters are under strict regulation for being dangerous for human health while others have non-enforceable regulations as they only cause cosmetic or aesthetic effects. On the other hand the public concern for water safety has led to an increase on the use of disinfectants, which in turn has become a problem itself.

In this work, a set of sequential injection methodologies is presented for monitoring several parameters in water samples. Using basically the same manifold, shown in the figure, several determinations (chloride, chlorine, calcium, magnesium, alkalinity, lead and aluminium) can be achieved with minor changes in the controlling software. The developed methodologies present a low reagent consumption and effluent production.



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