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Title: Kinetics of the bubble attachment and quartz flotation in mixed solutions of cationic and non-ionic surface-active substances

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Kinetics of the bubble attachment and quartz flotation in mixed solutions of cationic and non-ionic surface-active substances

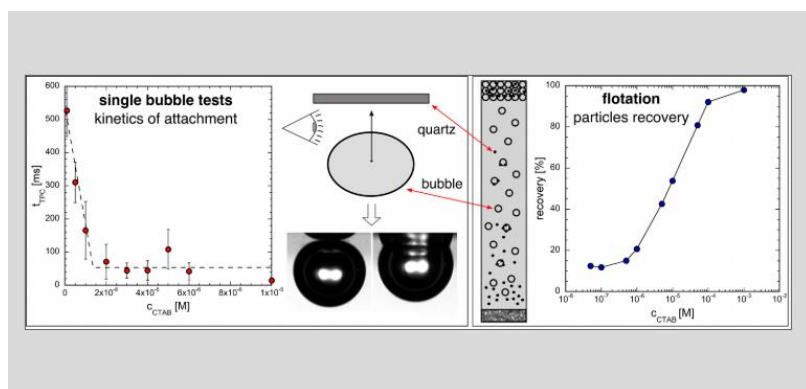
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GRAPHICAL ABSTRACT



Highlights

- Adsorption of CTAB cations causes a reversal of the bubble surface charge
- Time of single bubble attachment correlates well with quartz flotation recovery
- Mechanism of wetting film rupture depends only on CTAB concentration
- N-octanol modifies only properties of the liquid/gas (bubble) interface
- CTAB can modify properties of both the liquid/gas and liquid/solid interfaces

ABSTRACT

The effect of cationic (n-cetyltrimethylammonium bromide - CTAB) and non-ionic (n-octanol) surface-active substances (SAS) on the kinetics of rising bubble attachment to a quartz surface and flotation recovery of quartz particles was investigated. The measured time of the three-phase contact (TPC) formation (t_{TPC}) and the advancing contact angle (sessile drop) values, in pure and mixed CTAB and n-octanol solutions, allowed to evaluate the importance of electrostatic interactions and solid surface

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