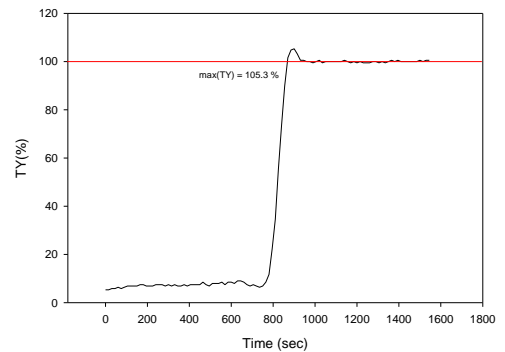
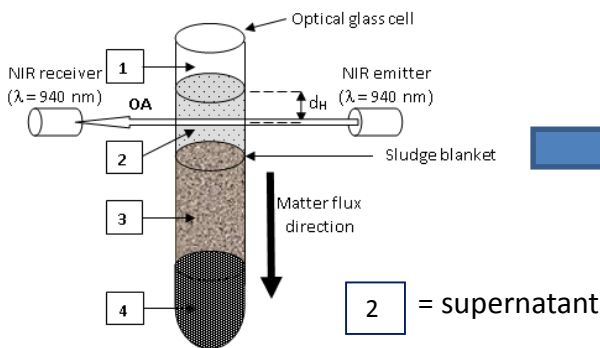


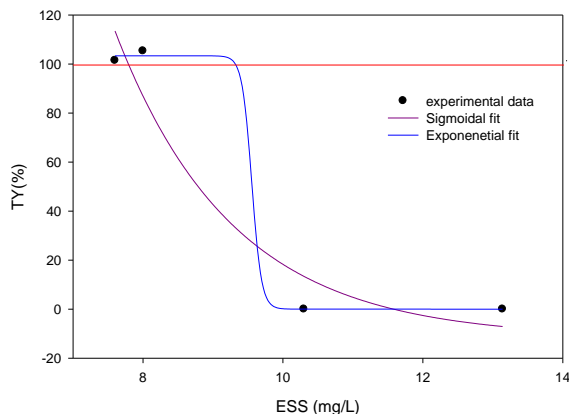


## NIR ACTIVATED SLUDGE SETTLING MEASUREMENT FOR MONITORING EFFLUENT SUSPENDED SOLIDS.

A NIR OPTOELECTRONIC DEVICE REVEALS TRANSMITTANCE VALUES (TY(%)) HIGHER THAN 100 % AT 940 nm. (Blank: distilled water filtered at 0.22 μm) TY(%) = f(time (sec))



A CORRELATION EXISTS BETWEEN Effluent Suspended Solids (ESS) AND SLUDGE TRANSMITTANCE HIGHER OR LOWER THAN 100%.



(The final choice of best fit will depend on future experimental data.)

*DISCUSSION* The quantity of effluent suspended solids (ESS) from activated sludge wastewater plants is essential both for the environment and for public health (retention of pathogens). The ability to deliver a rapid and inexpensive monitoring of this parameter would provide extra security to the treatment of municipal waste waters. The results shown here are very amazing and highlight an unexpected colligative property of the supernatant, probably based on a modification of some intrinsic properties of the water.

### Bibliography.

**J. Thierie (2012)**. Near infrared dynamic measurements of activated sludge highlight the possibility of the local modification of free water properties. *J. Near Infrared Spectrosc.* **20**:415-418.

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