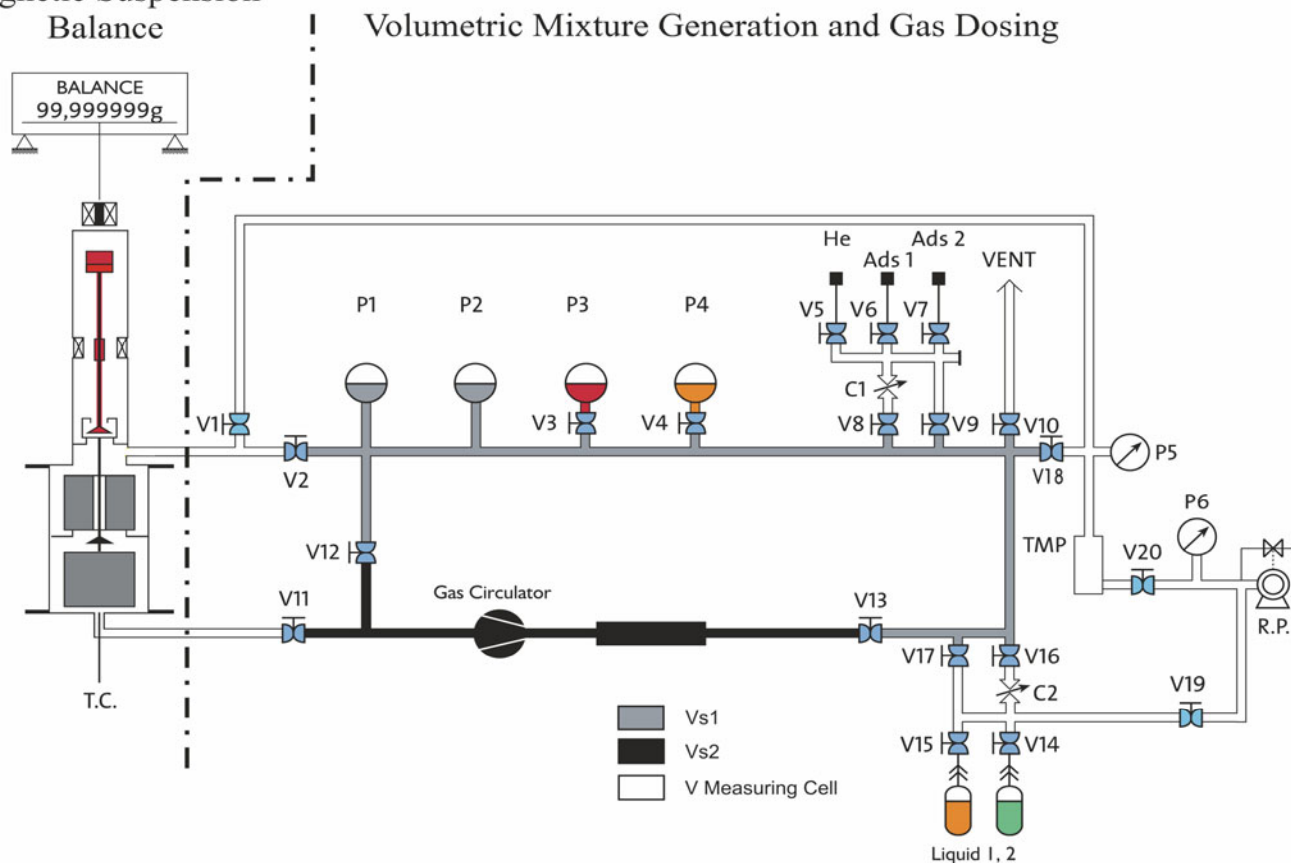


235f Measurement of the Selective Sorption on Alkylsulphate Ionic Liquids in CH₄/CO₂ Mixtures up to 13 Mpa

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Ionic liquids are widely recognised as very suitable substances for separation processes[1]. One of the gases which generally shows a high solubility in ILs is CO₂. Meanwhile, this is a well known example which could prove to be beneficial in a lot of applications. One of these applications is the extraction of CO₂ for natural gas purification. In this paper a new experimental technique is presented to measure directly the selective sorption on ionic liquids in binary gas-mixtures up to high pressures. This method consists of a combination of two well recognised sorption measuring methods, the so called volumetric and gravimetric methods. The principle of such an instrument for automated measurements is shown below. Experimental results for the sorption of CH₄/CO₂ mixtures in alkylsulphate ionic liquids measured with this instrument will be presented and discussed. [1] P. Wasserscheid, T. Welton (Eds.), Ionic Liquids in Synthesis 2003, Wiley-VCH, 81-93.

Magnetic Suspension



Schematic flow diagram of the new automatic gravimetric-volumetric installation for sorption measurements in binary gas and vapour mixtures.