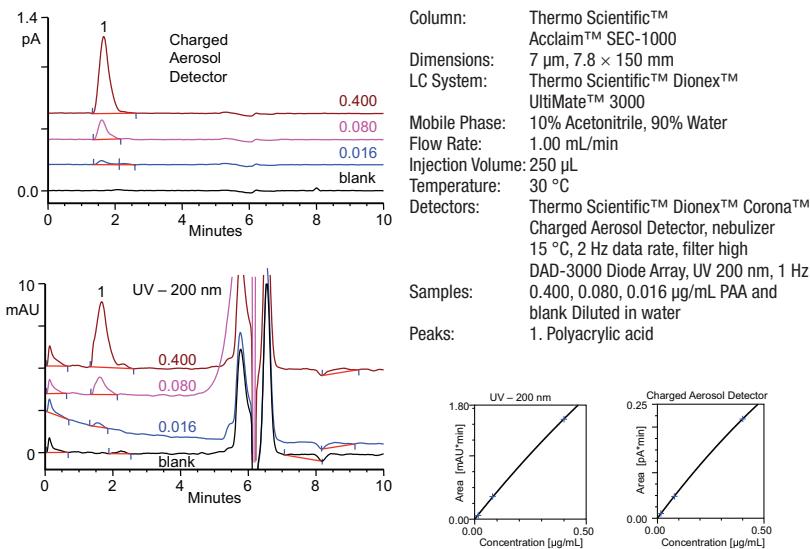


Polyacrylic Acid Using Acclaim SEC-1000 with Charged Aerosol versus UV Detection



PB20745_E 02/13S

Polyacrylic acid (PAA) has been used for many years in boilers to suppress scale; recently the nuclear power industry has started using it. Typical use rates are 0.05–1.0 µg/mL, so the assay needs a limit of quantification below 50 ppb. Size exclusion chromatography using the Acclaim SEC-1000 column, separates the polymer from small molecules. Usually, buffered mobile phases are used with this column to suppress electrostatic interactions, but that is not necessary here, and the un-buffered mobile phase provides better separation between PAA and cationic small ions. PAA has a weak UV chromophore, so the corona charged aerosol detector provides superior results with LOQ around 0.015 µg/mL.