

Interactive comment on “Development of a photochemical source for the production and calibration of acyl peroxyxynitrate compounds” by P. R. Veres and J. M. Roberts

P. R. Veres and J. M. Roberts

patrick.veres@noaa.gov

Received and published: 4 May 2015

This is good short descriptive paper showing a useful method of synthesizing PAN standards. In the main I agree with the other reviewer. It is concise, useful, and well written. The only thing I would add is with respect to inlet dissociation temperatures. What is the temperature of the gas stream? Can the authors comment on the relationship between the “real” thermal dissociation temperature and the operational temperature quoted in the paper? I realize the authors note that the precise TD condition is instrument dependent.

C1002

We thank the reviewer for the favorable comments and the equally concise review. The temperature of the gas stream is unfortunately not measured on our system. Previous unpublished work done in the tropospheric chemistry group in our labs at NOAA suggests that as constructed the inlet temperature measured on the surface of the Teflon tubing is nearly equivalent to the gas stream temperature. Operationally, the same system operated aboard an aircraft does not show any significant changes in sensitivity as a result of altitude, e.g. ambient gas stream temperature. This result would suggest that the gas stream is efficiently heated to the inlet temperature on the inlet residence timescale. Future instrumental updates include the measurement of the gas stream temperature; however, these improvements have as of yet not been implemented.

Interactive comment on Atmos. Meas. Tech. Discuss., 8, 1457, 2015.

C1003