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Carbon isotope ratios of atmospheric halocarbons at Bristol urban background area.

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ATD-GC-IRMS system has been used for the measurement of the carbon isotopic ratios of target halocarbons at Bristol Urban Background area. A new mobile preconcentration system has been established for large volume and remote sampling in tubes. Measurements of stable carbon isotope ratios for halocarbons give an idea about the sources and sinks of halocarbons which can provide a means of reducing uncertainties in the atmospheric budget for halocarbons. The ADS-GC-ECD system was also used for measuring the target halocarbon mixing ratios at the same time scale from the same sample line. The trends in urban background concentrations for the key species could have isotope ratio values assigned to them over this period. Some of the results reported in this study differ from previously reported values because of the different source strengths and sinks of these compounds or in differences in their analytical system including preconcentration system. The reporting of different values from different areas suggests that carbon isotope ratios may be used as a tool to help constrain global atmospheric budgets of halocarbons.