Low dew point membrane type air drier

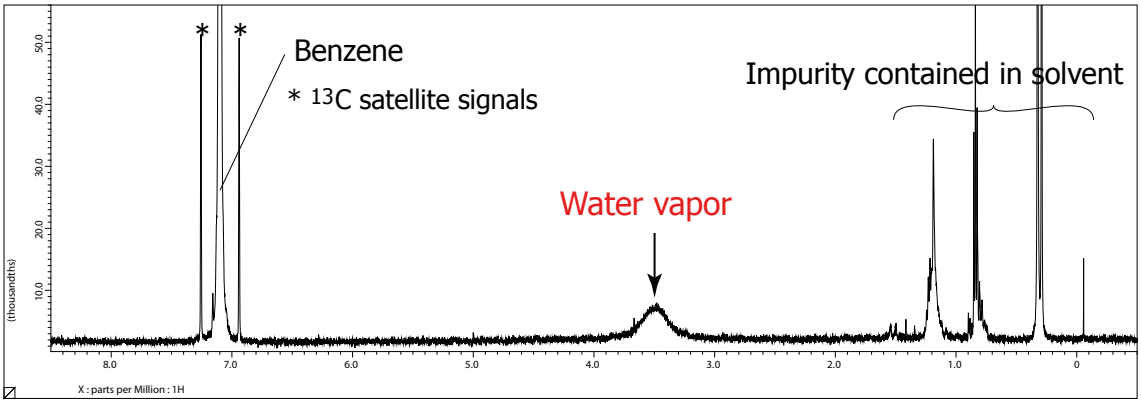

Fig. 1 Conventional standard air drier built-in compressor in use.

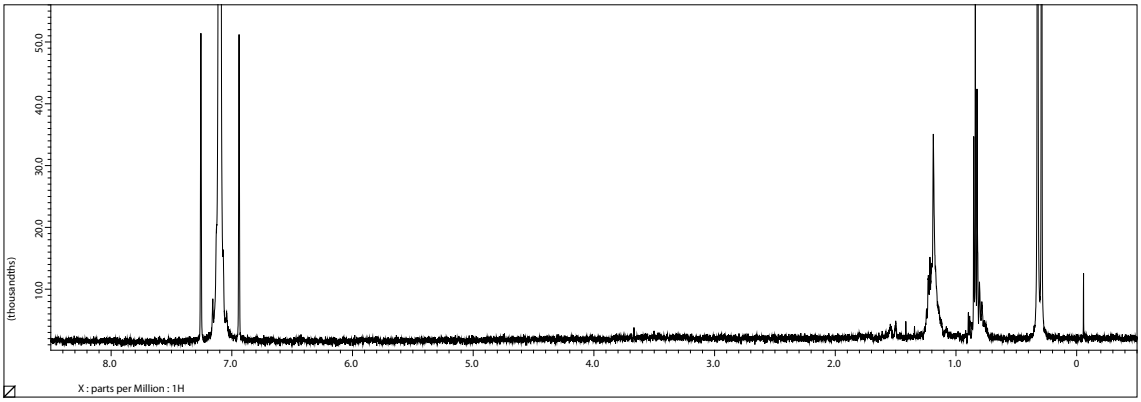

Fig. 2 Low dew point membrane type air drier (dew point: -40℃) in use.
※ Conventional compressor is concurrently used.

Sample: deuterated benzene
Spectrometer: JNM-ECA500
Probe: TH5AT/FG2
Accumulation: 512 scan

Among NMR instruments, an air drier is used to generate dried gas for temperature control, sample spinning, sample loading/ejecting, and so on. In the air, some moisture may remain depending on the drying performance, yielding unwanted vapor signals especially in the variable temperature experiments. The air drier of the standard configuration has sufficient capability for usual measurements to suppress the unwanted signal at the level lower than ^{13}C satellite signals and impurity signals of a small amount of normal solvent (less than 2%) contained in commercial deuterated solvent (Fig. 1). However, the unwanted signals may be an obstacle when the small signals in the vapor region are quantitatively observed. In such cases, vapor signals can be reduced to the undetectable level, by using a low dew point membrane air drier having higher drying capability (Fig. 2).

※ To use the low dew point membrane air drier, a high pressure compressor may separately be required to increase gas flow.

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