VIBRATIONAL PREDISSOCIATION OF $Na^+(CH_3OH)_m((CH_3)_2CO)_n$ ($m+n>1$; $m,n \geq 1$) FROM 2.5 TO 3.0 MICRONS.

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The vibrational predissociation spectra of $Na^+(CH_3OH)_m((CH_3)_2CO)_n$ ($m+n>1$; $m,n \geq 1$), recorded between 3250 - 3800 cm^{-1}, will be discussed and compared with clusters, $Na^+(CH_3OH)_m$, that do not contain any acetone molecules (n=0). Acetone is not infrared active in this spectral region, but is capable of participating in strong hydrogen bonds with methanol. Any changes in the spectra between $Na^+(CH_3OH)_m$ and $Na^+(CH_3OH)_m((CH_3)_2CO)_n$ can be attributed to the influence of one or more acetone molecules. As in the case of $Na^+(CH_3OH)_m$ clusters, the smaller cluster sizes show an absorption around 3670 cm^{-1}, which is attributed to methanols with 'free' O-H groups. Methanols acting as proton donors to other acetone or methanol molecules absorb below 3500 cm^{-1}. The structural impact due to the presence of one or more acetones will be discussed.