The infrared spectrum of biacetyl ((CH\textsubscript{2}CO)\textsubscript{2}) adsorbed onto sublimated films of alkali halides was observed. The infrared active C-H stretching modes are blue-shifted relative to the gas phase values, while the asymmetric carbonyl stretch is red-shifted. Surface-induced splitting has been observed in the asymmetric methyl rocking mode. Temperature-dependent broadening of the asymmetric methyl vibrations was observed. The vibrational shifts and splittings will be used, along with desorption kinetics, to determine the mode of adsorption for this molecule.