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### **Detection of chiral molecules**

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Recent years have seen an enormous growth of rich physics performed with cold samples of diatomic molecules, as well as impressive demonstrations of techniques to cool polyatomic molecules containing several ( $\sim 7$ ) atoms. Here we present progress in our methods to produce cold, dense, slow moving samples of molecules of many ( $> 20$ ) atoms from cryogenic buffer gas cells. The ability to produce cold, slow samples of such molecules opens up a host of potential research paths, including ultra-high precision spectroscopy, searches for changes in fundamental constants, and a rich set of experiments in the complex, low-decoherence Hilbert space spanned by the rotational and hyperfine states of such molecules. As an early demonstration of the rich physics offered in such systems, recent results demonstrating chirality-sensitive microwave spectroscopy of cold molecules will be presented.