Abstract Submitted
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Spectroscopic analysis on the 5 $^1\Sigma_0^+$, 3 $^1\Pi_1$, 5 $^3\Sigma_1^+$, and 4 $^3\Pi_1$ states of the KRb diatomic molecule using a molecular beam YONGHOON LEE, Mokpo National University, BONGSOO KIM, KAIST, JIN-TAE KIM, Chosun University — The 5 $^1\Sigma^+$, 3 $^1\Pi$, 5 $^3\Sigma_1^+$, and 4 $^3\Pi_1$ $\leftarrow$ X $^1\Sigma^+$ (v" = 0, 1) states of the KRb diatomic molecule near 440 nm have been identified using mass-resolved resonance enhanced two-photon ionization (RE2PI) in a cold molecular beam. For the 3 $^1\Pi$ state, the electronic term values (T_e) and vibrational constants are determined. From a rotational contour analysis, the Ω symmetries of the upper electronic states of the observed bands are assigned. Vibrational numberings of the experimentally observed levels of the 5 $^1\Sigma^+$, 3 $^1\Pi$, 5 $^3\Sigma_1^+$ and 4 $^3\Pi_1$ states, are also assigned. The fitted perturbation constants such as spin-orbit coupling matrix element, rotational temperature, linewith, T_v, and rotational constants have been determined and used to know line profiles of the rotational spectra.

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None

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