

## LASER-INDUCED FLUORESCENCE SPECTRA OF $C_3Ar$ NEAR $25400\text{--}25600\text{ cm}^{-1}$

YI-JEN WANG, YEN-CHU HSU, *Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan.*

About 14 bands of  $C_3Ar$  near the  $0\ 4^- \ 0\text{--}000$  and  $0\ 2^+ \ 0\text{--}000$  bands of the  $\tilde{A}\text{--}\tilde{X}$  system of  $C_3$  have been recorded by laser-induced fluorescence with a laser resolution of  $0.035\text{ cm}^{-1}$ . Bands at  $25428$  and  $25515\text{ cm}^{-1}$  are found to be type A, and those at  $25431$ ,  $25496$ , and  $25519\text{ cm}^{-1}$  are type C. Bands at  $25504$  and  $25507\text{ cm}^{-1}$  are too diffuse for rotational analysis. The bands near  $25500\text{ cm}^{-1}$  form part of two progressions with about  $10\text{ cm}^{-1}$  separations, which appear to represent the van der Waals in-plane-bending vibration. A third diffuse feature was observed near the R(3) line of the  $25519\text{ cm}^{-1}$  band. Possible dissociation processes will be discussed.