


230 LIF	HOP	Oxophosphane		C_s 
		Oxophosphine		
	State	\tilde{X}^1A'	\tilde{A}^1A''	
	Energy [eV]	0.00	2.360	
	$r_e(\text{P-H})$ [Å]	1.4578(6)	1.4671(26)	
	$r_e(\text{P=O})$ [Å]	1.4801(1)	1.5579(6)	
	$\theta_e(\text{H-P=O})$ [deg]	104.62(7)	97.4(4)	

HPO and DPO radicals were produced in a pulsed electric discharge jet using a mixture of H₂ or D₂ in argon which had been passed over POCl₃. From a combination of laser-induced fluorescence and wavelength resolved emission spectra, all six vibrational frequencies in the ground and excited states have been observed and vibrational force fields determined. From the rotational constants derived from the 0-0 bands of both isotopomers and the force fields, equilibrium structures have been determined.

Tackett, B.S., Clouthier, D.J.: J. Chem. Phys. **117** (2002) 10604.

[II/25A\(2, 693\)](#)