

Wavenumbers of the  $\Omega = 3$  Sub-bands of Herzberg III ( $A' \ ^3\Delta_u - X \ ^3\Sigma_g^-$ ) System of  $^{16}\text{O}_2$  Line positions with C are calculated from the term values. Lines with B are blended, and line positions are not available from the term values.

$N$	$^S R_{11}(N)$	$^R R_{12}(N)$	$^R Q_{11}(N)$	$^Q Q_{12}(N)$	$^Q P_{11}(N)$	$^P Q_{13}(N)$	$^P P_{12}(N)$	$^O P_{13}(N)$	$^Q R_{13}(N)$
$A'_3(5) - X(0)$ Band									
11			37795.053				37757.931		
$A'_3(6) - X(0)$ Band									
9		38430.884	38432.924C			38372.469C	38370.547C		
11									
13	38402.097C	38376.615B	38378.697B						
15	38370.249			38316.748	38318.850C				38318.628C
17				38273.447	38275.562C			38223.897C	38275.303C
19								38169.142C	
$A'_3(7) - X(0)$ Band									
9	39018.183B	38999.586	39001.626C			38941.171C	38939.249C		
11	38995.392								
13	38967.176C	38942.601C	38944.682	38921.528	38923.608C	38861.214C	38859.334C		38923.426C
15				38881.827	38883.929C			38840.139C	38883.707C
17								38788.976C	
$A'_3(8) - X(0)$ Band									
11	39510.439C	39489.657	39491.718C						
13		39456.562C	39458.644	39436.570	39438.652C	39419.749C	39417.849C		39438.470C
15	39444.232C					39375.175C	39373.295C	39355.183C	
17				39347.418	39349.538C				39349.279C
19								39243.117C	

$N$	$^S R_{11}(N)$	$^R R_{12}(N)$	$^R Q_{11}(N)$	$^Q Q_{12}(N)$	$^Q P_{11}(N)$	$^P Q_{13}(N)$	$^P P_{12}(N)$	$^O P_{13}(N)$	$^Q R_{13}(N)$
$A'_3(9) - X(0)$ Band									
9	39992.656C								
11				39930.279	39932.340C				39932.201C
13								39860.371C	
15									
17		39822.434C	39824.554						
19						39718.134C	39716.292C		
$A'_3(10) - X(0)$ Band									
7	40405.083C								
9	40382.656C			40354.210	40356.250C				40356.156C
11	40353.796C			40320.279	40322.340C			40295.795C	40322.201C
13	40318.308C	40297.420C	40299.501	40279.927	40282.009C			40250.371C	40281.827C
15		40253.037	40255.139C	40232.959	40235.061C	40216.033C	40214.153C	40198.540C	40234.839C
17						40160.186C	40158.325C	40140.108	
$A'_3(11) - X(0)$ Band									
7	40719.753C								
9				40668.880	40670.920C				40670.826C
11								40610.465C	
13		40604.528C	40606.609						
15	40577.073C					40523.141C	40521.261C		
17				40480.258	40482.379C				40482.120C
19								40375.958C	

References:

*Fourier Transform Spectroscopy and Cross Section Measurements of the Herzberg III Bands of O<sub>2</sub> at 295 K*, K. Yoshino, J. R. Esmond, W. H. Parkinson, A. P. Thorne, R. C. M. Learner, G. Cox, and A. S. -C. Cheung, J. Chem. Phys. **112**, 9791-9801 (2000).