		Fe <sup>2+</sup> MD Trans 37 levels, 666	sition Rates 5 transitions		1.8 s <sup>-1</sup> @ 300
	$7.3 \times 10^{-1}  s^{-1}  @  459.3$ $5.7 \times 10^{-1}  s^{-1}  @  466.3$		$4.8 \times 10^{-1}  s^{-1}  @  200.4  \text{nm}$		1.8 s <sup>-1</sup> @ 201.4 nm
	$2.6 \times 10^{-1}  s^{-1}  @ 487.9  \text{nm}$		3.7 × 10 <sup>-1</sup> s <sup>-1</sup> @ 198.0 nm	$2.8 \times 10^{-1}  s^{-1}  @  213.3  \text{nm}$ $2.6 \times 10^{-1}  s^{-1}  @  212.6  \text{nm}$	2.7 × 10 <sup>-1</sup> s <sup>-1</sup> @ 127.1 nm
	$2.5 \times 10^{-1}  s^{-1}  @  450.8$ $2.3 \times 10^{-1}  s^{-1}  @  487.9  \text{nm}$ $2.1 \times 10^{-1}  s^{-1}  @  487.9  \text{nm}$	2.4 × 10 <sup>-1</sup> s <sup>-1</sup> @ 649.4 nm			
	$2.0 \times 10^{-1}  s^{-1}  @  450.8$	1.8 × 10 <sup>-1</sup> s <sup>-1</sup> @ 918.8 nm	$1.9 \times 10^{-1}  s^{-1}  @  299.6  \text{nm}$ $1.8 \times 10^{-1}  s^{-1}  @  294.6  \text{nm}$	10 11 12	
	$1.4 \times 10^{-1}  s^{-1}  $ @ 454.7	$1.7 \times 10^{-1}  s^{-1}  @  1119.1  \text{nm}$ $1.3 \times 10^{-1}  s^{-1}  @  332.6  \text{nm}$	$1.6 \times 10^{-1}  s^{-1}  @  490.2  \text{nm}$ $1.5 \times 10^{-1}  s^{-1}  @  193.7  \text{nm}$		
		1.3 × 10 <sup>-1</sup> s <sup>-1</sup> @ 656.6 nm	$1.3 \times 10^{-1}  s^{-1}  @  491.2  \text{nm}$ $1.2 \times 10^{-1}  s^{-1}  @  379.6  \text{nm}$ $1.2 \times 10^{-1}  s^{-1}  @  703.0  \text{nm}$		
		$1.2 \times 10^{-1}  s^{-1}$ @ 321.2 nm $1.1 \times 10^{-1}  s^{-1}$ @ 333.6 nm	$1.2 \times 10^{-1}  s^{-1}  @  372.1  \text{nm}$ $1.2 \times 10^{-1}  s^{-1}  @  275.2  \text{nm}$ $1.1 \times 10^{-1}  s^{-1}  @  193.7  \text{nm}$	10 11 12	
	$1.0 \times 10^{-1}  s^{-1}  @  454.7$ $9.7 \times 10^{-2}  s^{-1}  @  457.5$	1.0 × 10 <sup>-1</sup> s <sup>-1</sup> @ 330.2 nm	$1.0 \times 10^{-1}  s^{-1}  @  1290.2  \text{nm}$ $1.0 \times 10^{-1}  s^{-1}  @  492.2  \text{nm}$		
	$9.6 \times 10^{-2}  s^{-1}  @  472.7$		.8 nm}	10 13 12	
		$= 8.6 \times 10^{-2}  s^{-1}$ @ 332.3 nm $= 8.6 \times 10^{-2}  s^{-1}$ @ 932.8 nm	$9.0 \times 10^{-2}  s^{-1}$ @ 489.5 nm $8.8 \times 10^{-2}  s^{-1}$ @ 344.8 nm $8.5 \times 10^{-2}  s^{-1}$ @ 629.6 nm		
	$8.4 \times 10^{-2}  s^{-1}  @  461.0$	$nm$ $8.1 \times 10^{-2}  s^{-1}$ @ 984.0 nm}	$8.4 \times 10^{-2}  s^{-1}  @  261.2  \text{nm}$ $8.2 \times 10^{-2}  s^{-1}  @  377.6  \text{nm}$ $8.2 \times 10^{-2}  s^{-1}  @  380.6  \text{nm}$	10 11 12	
			$7.9 \times 10^{-2}  s^{-1}  @  494.2  \text{nm}$ $7.8 \times 10^{-2}  s^{-1}  @  478.2  \text{nm}$ $7.8 \times 10^{-2}  s^{-1}  @  341.3  \text{nm}$ $7.6 \times 10^{-2}  s^{-1}  @  504.2  \text{nm}$		
	3	$\frac{6.1 \times 10^{-2}  s^{-1}  \text{@ 797}}{}$	$7.4 \times 10^{-2}  s^{-1}$ @ 262.4 nm]	$6.6 \times 10^{-2}  s^{-1}  @  376.9  \text{nm}$	
			$5.7 \times 10^{-2}  s^{-1}  @  344.4  \text{nm}$ $5.4 \times 10^{-2}  s^{-1}  @  745.9  \text{nm}$ $5.4 \times 10^{-2}  s^{-1}  @  199.2  \text{nm}$		
	$4.7 \times 10^{-2}  s^{-1}  @  459.5  1$	5.3 × 10 <sup>-2</sup> s <sup>-1</sup> @ 1134.1 nm 4.9 × 10 <sup>-2</sup> s <sup>-1</sup> @ 539	9 nm $4.8 \times 10^{-2} s^{-1}$ @ 194.4 nm $3 \times 10^{-2} s^{-1}$	10 11 12	
	4.7 × 10 <sup>-2</sup> s <sup>-1</sup> @ 461.5	$4.4 \times 10^{-2}  s^{-1}  @  1464.5  \text{nm}$ $4.3 \times 10^{-2}  s^{-1}  @  1496.0  \text{nm}$	4.6 × 10 <sup>-2</sup> s <sup>-1</sup> @ 346.0 nm}	$4.4 \times 10^{-2}  s^{-1} @ 212.7  \text{nm}$	
	$4.1 \times 10^{-2}  s^{-1}$ @ 500.0 nm $4.1 \times 10^{-2}  s^{-1}$ @ 500.0 nm	4.3 × 10 <sup>-2</sup> s <sup>-1</sup> @ 328.9 nm	4.3 × 10 <sup>-2</sup> s <sup>-1</sup> @ 277.0 nm}	$4.2 \times 10^{-2}  s^{-1}$ @ 384.9 nm	
		3.8 × 10 <sup>-2</sup> s <sup>-1</sup> @ 591.9 nm}	$3.6 \times 10^{-2}  s^{-1}$ @ 195.8 nm} $3.6 \times 10^{-2}  s^{-1}$ @ 475.6 nm}		
	$3.5 \times 10^{-2}  s^{-1}$ $3.3 \times 10^{-2}  s^{-1}  \textcircled{@}$	$3.4 \times 10^{-2}  s^{-1}  @  790$ $3.4 \times 10^{-2}  s^{-1}  @  325.7  \text{nm}$	.5 nm}	3.5 × 10 <sup>-2</sup> s <sup>-1</sup> @ 375.8 nm	
		3.2 × 10 <sup>-2</sup> s <sup>-1</sup> @ 639.2 nm}	$2.9 \times 10^{-2}  s^{-1}$ @ 349.0 nm} $2.7 \times 10^{-2}  s^{-1}$ @ 195.8 nm} $2.7 \times 10^{-2}  s^{-1}$ @ 731.4 nm} $2.7 \times 10^{-2}  s^{-1}$ @ 197.3 nm		
	$-2.7 \times 10^{-2}  s^{-1} @ 8001.4$	$2.6 \times 10^{-2}  s^{-1}  @  990.8  \text{nm}$ $2.5 \times 10^{-2}  s^{-1}  @  325.7  \text{nm}$	$2.6 \times 10^{-2}  s^{-1}$ @ 197.0 nm		
	$2.4 \times 10^{-2}  s^{-1}  \textcircled{0}$ $2.4 \times 10^{-2}  s^{-1}  \textcircled{0}$ $2.3 \times 10^{-2}  s^{-1}  \textcircled{0}  446.1$	@ 2190.7 nm	2.5 × 10 <sup>-2</sup> s <sup>-1</sup> @ 1414.3 nm		
	$2.1 \times 10^{-2}  s^{-1}$ $1.9 \times 10^{-2}  s^{-1}$	@ 3667.7 nm	$2.2 \times 10^{-2}  s^{-1}  @  298.0  \text{nm}$ $2.0 \times 10^{-2}  s^{-1}  @  195.6  \text{nm}$	2.3 × 10 <sup>-2</sup> s <sup>-1</sup> @ 175.1 nm	
	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	nm }	1.9 × 10 <sup>-2</sup> s <sup>-1</sup> @ 330.0 nm	$1.7 \times 10^{-2}  s^{-1}$ @ 179.0 nm	
	$1.5 \times 10^{-2}  s^{-1}$ @ 451.3	1.7 × 10 <sup>-2</sup> s <sup>-1</sup> @ 979.4 nm	$1.6 \times 10^{-2}  s^{-1}  @  475.0  \text{nm}$ $1.5 \times 10^{-2}  s^{-1}  @  735.3  \text{nm}$	1.7 × 10 3 @ 173.0 11113	
	3	$-1.4 \times 10^{-2}  s^{-1}$ @ 1205.5 nm] $-1.4 \times 10^{-2}  s^{-1}$ @ 326.9 nm]	1.5 × 10 <sup>-2</sup> s <sup>-1</sup> @ 1422.3 nm	1.5 × 10 <sup>-2</sup> $s^{-1}$ @ 175.1 nm 1.5 × 10 <sup>-2</sup> $s^{-1}$ @ 373.1 nm 10	
	$1.3 \times 10^{-2}  s^{-1}$		$1.4 \times 10^{-2}  s^{-1}$ @ 198.0 nm $1.4 \times 10^{-2}  s^{-1}$ @ 196.0 nm $1.3 \times 10^{-2}  s^{-1}$ @ 493.0 nm $1.3 \times 10^{-2}  s^{-1}$ @ 330.0 nm		
	1.2 × 10 <sup>-2</sup> s <sup>-1</sup> @ 451.3	3 nm }	$1.1 \times 10^{-2}  s^{-1} \ @ \ 492.0 \ nm$	10 11 12	
	$\begin{array}{c} 8.5 \times 10^{-3}  s^{-1} \\ \hline \\ 7.6 \times 10^{-3}  s^{-1}  @  1916 \end{array}$	7.7 × 10 <sup>-3</sup> s <sup>-1</sup> @ 1470.0 nm	$1.1 \times 10^{-2}  s^{-1}$ @ 196.0 nm $9.6 \times 10^{-3}  s^{-1}$ @ 341.7 nm		
	$6.8 \times 10^{-3}  s^{-1}  ($	@ 400.6 nm	$7.4 \times 10^{-3}  s^{-1}  @  12207.4  \text{nm}$ $6.9 \times 10^{-3}  s^{-1}  @  491.0  \text{nm}$ $6.6 \times 10^{-3}  s^{-1}  @  377.1  \text{nm}$	10 11 12	
		$5.8 \times 10^{-3}  s^{-1}  @  465$ $5.5 \times 10^{-3}  s^{-1}  @  1118.0  \text{nm}$	$6.3 \times 10^{-3} \text{ s}^{-1}$ @ 1278.1 nm		
	3	$5.0 \times 10^{-3} \ s^{-1} \ @ 993.3 \ nm$ $4.0 \times 10^{-3} \ s^{-1} \ @ 789.1 \ nm$ $3.9 \times 10^{-3} \ s^{-1} \ @ 1147.4 \ nm$	$4.1 \times 10^{-3}  s^{-1}$ @ 344.0 nm $4.1 \times 10^{-3}  s^{-1}$ @ 194.2 nm	10 11 12	
	$3.7 \times 10^{-3}  s^{-1}$ $3.0 \times 10^{-3}  s^{-1}$ @ 5602.9	$3.0 \times 10^{-3}  s^{-1}$ @ 1190.2 nm	$3.5 \times 10^{-3}  s^{-1}$ @ 196.1 nm $3.2 \times 10^{-3}  s^{-1}$ @ 380.1 nm		
	$2.8 \times 10^{-3}  s^{-1}$ $2.5 \times 10^{-3}  s^{-1}$	4 5		$2.9 \times 10^{-3} \text{ s}^{-1} \text{ @ } 179.8 \text{ nm}$	
${2.0 \times 10^{-3}  s^{-1}}$ @ 23585.3 nm}	$\frac{2.1 \times 10^{-3}  s^{-1}}{2.1 \times 10^{-3}  s^{-1}}$				$2.2 \times 10^{-3}  s^{-1} @ 143.1  \text{nm}$
1.5 × 10 <sup>-3</sup> s <sup>-1</sup> @ 23585.8 nm	$1.5 \times 10^{-3}  s^{-1}  ($	1.6 × 10 <sup>-3</sup> s <sup>-1</sup> @ 330.4 nm 2. 407.5 nm	.6 nm}	$1.6 \times 10^{-3}  s^{-1}  @  291.0  \text{nm}$	
	$ \begin{array}{c} 1.5 \times 10^{-3}  s^{-1} \\ 1.3 \times 10^{-3}  s^{-1} & 4964. \end{array} $ $ \begin{array}{c} 1.2 \times 10^{-3}  s^{-1} \end{array} $	9 nm} @ 3383.1 nm}	$\{1.2 \times 10^{-3} \ s^{-1} \ @ \ 25015.6 \ nm\}$	$1.3 \times 10^{-3}  s^{-1}$ @ 248.7 nm	
$1.1 \times 10^{-3}  s^{-1}$ @ 23584.9 nm $1.0 \times 10^{-3}  s^{-1}$ @ 33361.1 nm		1.1×10 <sup>-3</sup> s <sup>-1</sup> @ 269.6 nm	$\{1.1 \times 10^{-3} \ s^{-1} \ @ \ 350.5 \ nm\}$ $\{1.0 \times 10^{-3} \ s^{-1} \ @ \ 673.2 \ nm\}$	10 11 12	
	9.4 × 10 <sup>-4</sup> $s^{-1}$ @ 490.2 nm} 9.3 × 10 <sup>-4</sup> $s^{-1}$ @ 5134.5	9.5 × 10 <sup>-4</sup> s <sup>-1</sup> @ 1163.2 nm 9.4 × 10 <sup>-4</sup> s <sup>-1</sup> @ 1170.2 nm 5 nm 7.9 × 10 <sup>-4</sup> s <sup>-1</sup> @ 1527.3 nm			
$7.5 \times 10^{-4}  s^{-1}$ @ 33360.3 nm $6.9 \times 10^{-4}  s^{-1}$ @ 23586.2 nm $6.8 \times 10^{-4}  s^{-1}$ @ 51713.0 nm	7.5 × 10 <sup>-4</sup> s <sup>-1</sup> @ 490.2 nm	7.6 × 10 <sup>-4</sup> s <sup>-1</sup> @ 321.3 nm		10 11 12	
		$6.1 \times 10^{-4}  s^{-1}  @  321.3  \text{nm}$ $5.9 \times 10^{-4}  s^{-1}  @  271.0  \text{nm}$	$6.6 \times 10^{-4}  s^{-1}  @  494.8  \text{nm}$ $6.4 \times 10^{-4}  s^{-1}  @  365.1  \text{nm}$ $6.0 \times 10^{-4}  s^{-1}  @  320.4  \text{nm}$		
	$5.6 \times 10^{-4}  s^{-1}$ $4.8 \times 10^{-4}  s^{-1}  \textcircled{0}$ $4.5 \times 10^{-4}  s^{-1}$	@ 397.8 nm 2396.4 nm @ 397.8 nm	$4.7 \times 10^{-4}  s^{-1}$ @ 322.1 nm	1.0	
	$3.1 \times 10^{-4}  s^{-1}  @  43602$	2.7 nm}	$4.0 \times 10^{-4}  s^{-1}$ @ 337.6 nm $3.4 \times 10^{-4}  s^{-1}$ @ 344.2 nm	4.0 × 10 <sup>-4</sup> s <sup>-1</sup> @ 180.4 nm	
	2.6 × 10 <sup>-4</sup> s <sup>-1</sup> @ 46548.9 nm	$3.1 \times 10^{-4}  s^{-1}  @  474$ $2.5 \times 10^{-4}  s^{-1}  @  439$ $2.4 \times 10^{-4}  s^{-1}  @  229$	.7 nm		2.6 × 10 <sup>-4</sup> s <sup>-1</sup> @ 100.0 nm
		4 6	$2.2 \times 10^{-4}  s^{-1}$ @ 349.2 nm] $2.2 \times 10^{-4}  s^{-1}$ @ 170.9 nm] $2.0 \times 10^{-4}  s^{-1}$ @ 365.0 nm]		
	$1.8 \times 10^{-4}  s^{-1}$ $1.7 \times 10^{-4}  s^{-1}$ @ 5894	@ 56847.2 nm 1.7 × 10 <sup>-4</sup> s <sup>-1</sup> @ 231.	1.7 × 10 <sup>-4</sup> s <sup>-1</sup> @ 170.9 nm		
	1.6 × 10 <sup>-4</sup> s <sup>-1</sup> @ 500.6 nm	$1.7 \times 10^{-4}  s^{-1}  @  439$ $1.6 \times 10^{-4}  s^{-1}  @  290.5  \text{nm}$ $1.5 \times 10^{-4}  s^{-1}  @  1130.9  \text{nm}$	1.7 × 10 <sup>-4</sup> s <sup>-1</sup> @ 327.9 nm		
1.4 × 10 <sup>-4</sup> s <sup>-1</sup> @ 105289.2 nm	$1.4 \times 10^{-4}  s^{-1}$ @ 61411.5 nm	1.4 × 10 <sup>-4</sup> s <sup>-1</sup> @ 325.8 nm	$1.5 \times 10^{-4}  s^{-1}  @  346.9  \text{nm}$		
	1.2 × 10 <sup>-4</sup> s <sup>-1</sup> @ 500.6 nm 1.2 × 10 <sup>-4</sup> s <sup>-1</sup> @	1.3 × 10 <sup>-4</sup> s <sup>-1</sup> @ 1782.0 nm 1.3 × 10 <sup>-4</sup> s <sup>-1</sup> @ 231 406.9 nm		10 11 12	
	$\frac{1.2 \times 10^{-4}  s^{-1}}{1.2 \times 10^{-4}  s^{-1}}$		$1.2 \times 10^{-4}  s^{-1}  @  194.9  \text{nm}$ $1.1 \times 10^{-4}  s^{-1}  @  327.9  \text{nm}$ $1.1 \times 10^{-4}  s^{-1}  @  198.8  \text{nm}$		
	$9.8 \times 10^{-5}  s^{-1}  @$ $9.8 \times 10^{-5}  s^{-1}  @$ $8.1 \times 10^{-5}  s^{-1}  @  495.2  nm$ $8.1 \times 10^{-5}  s^{-1}  @  495.2  nm$	$9.2 \times 10^{-5}  s^{-1}  @  232$ $8.2 \times 10^{-5}  s^{-1}  @  267.5  \text{nm}$	.9 nm	10 11 12	
	$ \begin{array}{c c}  & & & & & \\  & & & & \\  & & & & \\  & & & &$		$4.9 \times 10^{-5}  s^{-1}  @  172.1  \text{nm}$ $4.2 \times 10^{-5}  s^{-1}  @  321.3  \text{nm}$		
		4.1 × 10 <sup>-5</sup> s <sup>-1</sup> @ 2298.0 nm 3.0 × 10 <sup>-5</sup> s <sup>-1</sup> @ 84656.1 nm	4.2 × 10 <sup>-5</sup> s <sup>-1</sup> @ 321.3 nm 3.6 × 10 <sup>-5</sup> s <sup>-1</sup> @ 172.1 nm	$4.2 \times 10^{-5}  s^{-1}  @  129.7  \text{nm}$ $3.5 \times 10^{-5}  s^{-1}  @  129.4  \text{nm}$	
			$2.8 \times 10^{-5}  s^{-1}  @  321.3  \text{nm}$ $2.7 \times 10^{-5}  s^{-1}  @  371.8  \text{nm}$ $2.2 \times 10^{-5}  s^{-1}  @  339.5  \text{nm}$ $1.5 \times 10^{-5}  s^{-1}  @  1193.7  \text{nm}$	$1.6 \times 10^{-5}  s^{-1}$ @ 128.9 nm	
		1.1 × 10 <sup>-5</sup> s <sup>-1</sup> @ 1622.2 nm	1.5 × 10 <sup>-5</sup> s <sup>-1</sup> @ 1193.7 nm}	$1.2 \times 10^{-5}  s^{-1}  @  128.9  \text{nm}$	

10

12

6 E/eV