Electronic Supplementary Material (ESI) for Journal of Materials Chemistry This journal is C The Royal Society of Chemistry 2012

1st Generation

| | LI01/2 | K01/2 | NaU1/2 | ivigo | SIU | CaU | BaU | ZnO | PU5/2 | EUU3/2 | A _{ex} =254nm | N _{ex} =390nm |
|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------------------------|------------------------|
| 1 | | 0.4400 | | | | | | 0.2786 | 0.2800 | 0.0014 | 17148 | 4091 |
| 2 | | | 0.1000 | | | | | 0.1990 | 0.7000 | 0.0010 | 14712 | 8373 |
| 3 | | | 0.0625 | | | | | 0.2375 | 0.6875 | 0.0119 | 17452 | 7455 |
| 4 | | 0.1875 | | | | 0.4975 | | | 0.3125 | 0.0025 | 41819 | 78390 |
| 5 | | 0.6875 | | | | | 0.2475 | | 0.0625 | 0.0025 | 44020 | 2967 |
| 6 | | 0.0909 | | | | | 0.4455 | | 0.4545 | 0.0089 | 82001 | 2573 |
| 7 | 0.1667 | | | | 0.4125 | | | | 0.4167 | 0.0041 | 425999 | 299795 |
| 8 | | | 0.3571 | | | | | 0.3554 | 0.2857 | 0.0018 | 16634 | 5574 |
| 9 | | | 0.0667 | | 0.1990 | | | | 0.7333 | 0.0010 | 229385 | 136060 |
| 10 | | | 0.6875 | | | | 0.1188 | | 0.1875 | 0.0059 | 149153 | 1066 |
| 11 | | 0.1333 | | | | 0.4573 | | | 0.4000 | 0.0091 | 28673 | 60010 |
| 12 | | | 0.2222 | | | | | 0.2111 | 0.5556 | 0.0106 | 17518 | 7282 |
| 13 | 0.4783 | | | | | 0.2065 | | | 0.3043 | 0.0103 | 22361 | 4382 |
| 14 | | | 0.4286 | | | | | 0.2262 | 0.3333 | 0.0113 | 12537 | 4418 |
| 15 | 0.3600 | | | | | | 0.1900 | | 0.4400 | 0.0095 | 100917 | 129952 |
| 16 | 0.2500 | | | | | | 0.1658 | | 0.5833 | 0.0008 | 83890 | 101044 |
| 17 | 0.2400 | | | | | | 0.3582 | | 0.4000 | 0.0018 | 319865 | 400240 |
| 18 | | 0.3600 | | | 0.1960 | | | | 0.4400 | 0.0039 | 167080 | 344270 |
| 19 | 0.0625 | | | | | | | 0.6219 | 0.3125 | 0.0031 | 22872 | 626 |
| 20 | | | 0.1875 | 0.4750 | | | | | 0.3125 | 0.0238 | 85443 | 79662 |
| 21 | 0.4000 | | | 0.2786 | | | | | 0.3200 | 0.0014 | 41151 | 5503 |
| 22 | | 0.0714 | | | 0.1400 | | | | 0.7857 | 0.0028 | 10291 | 4971 |
| 23 | | | 0.3750 | | | | | 0.1650 | 0.4583 | 0.0017 | 22636 | 7205 |
| 24 | 0.3182 | | | | 0.1800 | | | | 0.5000 | 0.0018 | 14792 | 7565 |
| 25 | 0.1818 | | | | 0.0864 | | | | 0.7273 | 0.0043 | 14464 | 7611 |
| 26 | 0.3125 | | | | | | 0.6219 | | 0.0625 | 0.0031 | 86711 | 147498 |
| 27 | | | 0.5333 | | | | | 0.3317 | 0.1333 | 0.0017 | 30878 | 3127 |
| 28 | | 0.1111 | | | | 0.4222 | | | 0.4444 | 0.0211 | 16841 | 36717 |
| 29 | | 0.6364 | | | 0.2673 | | | | 0.0909 | 0.0053 | 104076 | 109692 |
| 30 | | 0.4000 | | | 0.2744 | | | | 0.3200 | 0.0055 | 375627 | 34881 |
| 31 | 0.1000 | | | | | 0.1900 | | | 0.7000 | 0.0095 | 13472 | 7345 |
| 32 | 0.5000 | | | | | 0.3455 | | | 0.1364 | 0.0173 | 5188 | 1227 |
| 33 | | 0.2143 | | | | | 0.7071 | | 0.0714 | 0.0071 | 23061 | 78363 |
| 34 | | 0.4000 | | | 0.1960 | | | | 0.4000 | 0.0039 | 451781 | 427329 |
| 35 | | 0.2857 | | | | | 0.3300 | | 0.3810 | 0.0033 | 732909 | 283056 |
| 36 | | 0.1875 | | | | 0.4750 | | | 0.3125 | 0.0238 | 20115 | 40771 |

2nd Generation

| | LI01/2 | K01/2 | Na01/2 | Mgo | SrO | CaO | BaO | ZnO | PO5/2 | EuO3/2 | <mark>λ_{ex}=254n</mark> m | <mark>λ_{ex}=390nm</mark> |
|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------------------------------------|-----------------------------------|
| 1 | | 0.1333 | | | 0.1960 | | | | 0.6667 | 0.0039 | 37746 | 7685 |
| 2 | 0.2632 | | | | | 0.2500 | | | 0.4737 | 0.0125 | 9959 | 2205 |
| 3 | 0.3333 | | | | 0.2357 | | | | 0.4286 | 0.0024 | 120191 | 84083 |
| 4 | | 0.0667 | | | 0.4573 | | | | 0.4667 | 0.0091 | 593287 | 565709 |
| 5 | 0.4545 | | | | | 0.4455 | | | 0.0909 | 0.0089 | 68555 | 3052 |
| 6 | | 0.0667 | | | 0.1960 | | | | 0.7333 | 0.0039 | 45916 | 10650 |
| 7 | | | 0.5000 | | | | | 0.1244 | 0.3750 | 0.0006 | 14596 | 5755 |
| 8 | | 0.2500 | | | 0.4083 | | | | 0.3333 | 0.0082 | 901341 | 794522 |
| 9 | 0.1429 | | | | | | 0.2714 | | 0.5714 | 0.0136 | 6173 | 487 |
| 10 | | | 0.0833 | | | | | 0.3300 | 0.5833 | 0.0033 | 6946 | 2403 |
| 11 | | 0.0952 | | | 0.4200 | | | | 0.4762 | 0.0084 | 761748 | 647923 |
| 12 | | 0.4762 | | | | | 0.1414 | | 0.3810 | 0.0014 | 210987 | 51735 |
| 13 | 0.2667 | | | | | | 0.4433 | | 0.2667 | 0.0222 | 41592 | 2848 |
| 14 | | 0.3043 | | | 0.2130 | | | | 0.4783 | 0.0043 | 504897 | 365562 |
| 15 | | 0.2857 | | | 0.3267 | | | | 0.3810 | 0.0065 | 241694 | 293819 |
| 16 | | 0.4000 | | | | | 0.1980 | | 0.4000 | 0.0020 | 187699 | 36584 |
| 17 | | 0.5000 | | | | | 0.1244 | | 0.3750 | 0.0006 | 229609 | 42932 |
| 18 | | 0.5000 | | | 0.1244 | | | | 0.3750 | 0.0006 | 193035 | 52587 |
| 19 | | | 0.3043 | | | | | 0.3893 | 0.3043 | 0.0019 | 8587 | 1617 |
| 20 | | 0.5294 | | 0.1676 | | | | | 0.2941 | 0.0084 | 18752 | 4408 |
| 21 | | 0.1250 | | | | 0.3958 | | | 0.4583 | 0.0198 | 11220 | 3319 |
| 22 | 0.1429 | | | | | | 0.4264 | | 0.4286 | 0.0021 | 359025 | 6858 |
| 23 | 0.1667 | | | | | | 0.3958 | | 0.4167 | 0.0198 | 45953 | 271335 |
| 24 | 0.3600 | | | | 0.1980 | | | | 0.4400 | 0.0020 | 165120 | 103860 |
| 25 | | 0.6875 | | | | 0.2488 | | | 0.0625 | 0.0012 | 51617 | 7516 |
| 26 | | 0.1875 | | | | | 0.4950 | | 0.3125 | 0.0050 | 19682 | 2978 |
| 27 | | 0.1538 | | | | 0.2262 | | | 0.6154 | 0.0045 | 11311 | 4614 |
| 28 | 0.0909 | | | | | 0.6332 | | | 0.2727 | 0.0032 | 30432 | 9390 |
| 29 | 0.1667 | | | | 0.3958 | | | | 0.4167 | 0.0198 | 338145 | 435043 |
| 30 | 0.1818 | | | | 0.0900 | | | | 0.7273 | 0.0009 | 0 | 0 |
| 31 | | | 0.1000 | 0.1900 | | | | | 0.7000 | 0.0095 | 7903 | 713 |
| 32 | 0.1875 | | | | | 0.4750 | | | 0.3125 | 0.0238 | 16772 | 2637 |
| 33 | | | 0.1875 | | | | | 0.4750 | 0.3125 | 0.0238 | 76268 | 9171 |
| 34 | | 0.4286 | | | | 0.2369 | | | 0.3333 | 0.0012 | 27021 | 8884 |
| 35 | | 0.2857 | | | | | 0.3300 | | 0.3810 | 0.0033 | 798184 | 376743 |
| 36 | | 0.4000 | | | 0.1960 | | | | 0.4000 | 0.0039 | 596351 | 564074 |

3rd Generation

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| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | | LI01/2 | K01/2 | NaU1/2 | ivigo | SIU | CaU | BaU | ZnO | PU5/2 | EU03/2 | A _{ex} =254nm | v ^{ex} =390nm |
|---|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------------------------|------------------------|
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1 | | | 0.2667 | | | | 0.3317 | | 0.4000 | 0.0017 | 900407 | 323003 |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 2 | | 0.0625 | | | | | | 0.3713 | 0.5625 | 0.0037 | 7177 | 1567 |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 3 | | 0.4286 | | | | | 0.2369 | | 0.3333 | 0.0012 | 1101510 | 491405 |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 4 | | 0.5000 | | | | 0.1244 | | | 0.3750 | 0.0006 | 34902 | 3870 |
| 6 0.1250 0.3958 0.4583 0.0198 48000 526537 7 0.0952 0.4264 0.4762 0.0021 869787 604373 8 0.3043 0.3335 0.3385 0.03043 0.0077 15885 2519 9 0.1333 0.3835 0.3043 0.0077 255203 188432 11 0.0667 0.4433 0.4467 0.0222 453292 523080 12 0.1667 0.4083 0.4167 0.0022 433945 408586 13 0.0667 0.4573 0.4667 0.0921 10532 687639 15 0.5000 0.2475 0.2500 0.0025 1004390 561659 16 0.3600 0.1990 0.4400 0.0010 80441 6949 17 0.0952 0.4071 0.4762 0.0204 14336 2351 18 0.2400 0.3769 0.4231 0.0075 69831 20101 2 | 5 | | 0.1875 | | | 0.4750 | | | | 0.3125 | 0.0238 | 97278 | 103746 |
| 7 0.0952 0.4264 0.4762 0.0021 869787 604373 8 0.3043 0.3043 0.3043 0.077 16885 2519 9 0.1333 0.1390 0.6667 0.0010 11373 3622 10 0.3043 0.3043 0.3835 0.3043 0.0077 255203 188432 11 0.0667 0.4433 0.4667 0.0222 453292 523080 12 0.1667 0.0483 0.4467 0.0022 453292 523080 13 0.0667 0.1960 0.7333 0.0039 62623 12513 14 0.0667 0.1950 0.4467 0.0921 100390 561659 15 0.5000 0.2475 0.2500 0.0025 1004390 561659 16 0.3600 0.2475 0.2500 0.0024 14536 23511 18 0.2400 0.0471 0.4762 0.0204 14536 23511 18 0.2400 0.3769 0.4433 0.4667 0.022 22233 888 22 0.1875 0.4900 0.3325 0.0088 84674 40894 23 0.4000 0.3528 0.2400 0.0711 250925 13801 24 0.1275 0.2488 0.2407 0.2567 0.0091 84274 40894 25 0.1429 0.2667 0.2480 0.5714 0.0056 8522 3471 26 0.4000 0.3125 </td <td>6</td> <td></td> <td>0.1250</td> <td></td> <td></td> <td>0.3958</td> <td></td> <td></td> <td></td> <td>0.4583</td> <td>0.0198</td> <td>480080</td> <td>526537</td> | 6 | | 0.1250 | | | 0.3958 | | | | 0.4583 | 0.0198 | 480080 | 526537 |
| 8 0.3043 0.3333 0 0.3335 0.343 0.077 16885 2519 9 0.1333 0.3335 0.3043 0.077 15885 2519 10 0.3043 0.3335 0.3043 0.077 255203 188432 11 0.0667 0.4433 0.4667 0.0222 453292 523080 12 0.1667 0.4083 0.4167 0.0822 439845 408586 13 0.0667 0.4983 0.4167 0.091 710532 687639 15 0.5000 0.2475 0.2500 0.0025 1004390 561659 16 0.3600 0.1990 0.4400 0.0101 8041 6949 17 0.0952 0.4071 0.4762 0.0204 14356 2351 18 0.2400 0.3564 0.4000 0.0364 466566 188741 19 0.2143 0.1400 0.3564 0.4000 0.0028 0 | 7 | | 0.0952 | | | 0.4264 | | | | 0.4762 | 0.0021 | 869787 | 604373 |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 8 | | | 0.3043 | | | | | 0.3835 | 0.3043 | 0.0077 | 16885 | 2519 |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 9 | | | 0.1333 | | | | | 0.1990 | 0.6667 | 0.0010 | 11373 | 3622 |
| 110.06670.44330.46670.0222453292523080 12 0.16670.040830.41670.0082439845408586 13 0.06670.19600.73330.00396262312513 14 0.06670.045730.46670.0091710532687639 15 0.50000.24750.25000.00251004390561659 16 0.36000.049710.47620.2004145362351 18 0.24000.040710.47620.0204145362351 19 0.21430.14000.35640.400756083120101 21 0.066700.44330.46670.0222222388 22 0.18750.49000.44330.46670.0222222388 22 0.18750.49000.31250.00756083120101 21 0.06670.4900.31250.0025135801 24 0.18750.49000.31250.0022222388 22 0.18750.24080.24000.071250925135801 24 0.18750.24880.26070.0012302463844 25 0.14290.28000.57140.005685223471 26 0.40000.19000.45730.26670.0091867831255790 29 0.40000.19600.45730.26670.00918627831255790 29 < | 10 | | 0.3043 | | | 0.3835 | | | | 0.3043 | 0.0077 | 255203 | 188432 |
| 120.16670.40830.41670.0082439845408586 13 0.06670.19600.73330.00396262312513 14 0.06670.45730.46670.091710532687639 15 0.50000.24750.25000.0251004390561659 16 0.360000.40710.47620.2044145362351 18 0.240000.40710.47620.0024145362351 18 0.240000.35640.40000.036466656188741 19 0.21430.140000.64290.022800 20 0.19230.37690.43310.00756083120101 21 0.066700.43330.46670.022222223888 22 0.18750.49000.31250.00988467440894 23 0.40000.35280.56250.012302463844 25 0.14290.28000.57140.056685223471 26 0.40000.19000.21920.61540.0101147155 28 0.26670.42000.45730.26670.0094827831255790 29 0.40000.19000.21920.61540.0101147155 28 0.26670.42000.47620.0084927817766664 31 0.08330.06520.00010.19800.353 | 11 | | 0.0667 | | | 0.4433 | | | | 0.4667 | 0.0222 | 453292 | 523080 |
| 13 0.0667 0.1960 0.7333 0.039 62623 12513 14 0.0667 0.4573 0.4667 0.0911 710532 687639 15 0.5000 0.2475 0.2500 0.0025 1004390 561659 16 0.3600 0.2475 0.2500 0.0024 104336 23511 18 0.2400 0.04071 0.4762 0.0204 14536 23511 18 0.2400 0.04071 0.4762 0.0204 14536 23511 19 0.2143 0.1400 0.3564 0.4000 0.036 466656 188741 19 0.2143 0.1400 0.4433 0.4667 0.0222 22223 888 22 0.0667 0.4900 0.4433 0.4667 0.0222 22223 888 22 0.1875 0.4900 0.3528 0.2400 0.0711 250925 135801 24 0.1875 0.2488 0.2800 0.5714 0.0566 8522 3471 26 0.4000 0.1900 0.2192 0.6154 0.1101 1471 55 28 0.2667 0.04201 0.2677 0.2285 0.6154 0.0091 82783 1255790 29 0.4000 0.1960 0.3267 0.2833 0.065 0 0 30 0.0952 0.4200 0.3267 0.5833 0.065 0 0 31 0.0833 0.3571 0.3554 0.2857 <td>12</td> <td>0.1667</td> <td></td> <td></td> <td></td> <td>0.4083</td> <td></td> <td></td> <td></td> <td>0.4167</td> <td>0.0082</td> <td>439845</td> <td>408586</td> | 12 | 0.1667 | | | | 0.4083 | | | | 0.4167 | 0.0082 | 439845 | 408586 |
| 14 0.0667 0.4573 0.4667 0.091 710532 687639 15 0.5000 0.2475 0.2500 0.0251 1004390 561659 16 0.3600 0.1990 0.4400 0.0101 80441 6949 17 0.0952 0.4071 0.4762 0.0204 14536 23511 18 0.2400 0.0101 0.4762 0.0028 0 0 20 0.2143 0.1400 0.3564 0.4000 0.0028 0 0 20 0.1923 0.3769 0.4433 0.4667 0.0222 2223 888 22 0.1875 0.4900 0.4433 0.4667 0.0222 2223 888 22 0.1875 0.4900 0.3125 0.0098 84674 40894 23 0.4000 0.3528 0.2400 0.0712 250925 135801 24 0.1875 0.2488 0.2800 0.5714 0.056 8522 3471 26 0.4000 0.1900 0.2192 0.6154 0.0101 1471 55 28 0.2667 0.4420 0.4573 0.2667 0.0028 320447 128201 30 0.0952 0.4200 0.4573 0.2667 0.0084 927817 766664 31 0.0833 0.4200 0.2285 0.6154 0.0023 12877 766664 31 0.0833 0.3554 0.22857 0.0188 | 13 | | 0.0667 | | | 0.1960 | | | | 0.7333 | 0.0039 | 62623 | 12513 |
| 15 0.5000 0.2475 0 0.2500 0.0025 1004390 561659 16 0.3600 0 0.1990 0.4400 0.0010 80441 6949 17 0.0952 0 0.4071 0.4762 0.024 14536 2351 18 0.2400 0 0.4071 0.4762 0.024 14536 2351 19 0.2143 0.1400 0.3564 0.4000 0.0028 0 0 20 0.1923 0.3769 0 0.4231 0.0075 60831 20101 21 0.0667 0 0.4433 0.4667 0.222 2223 888 22 0.1875 0.4900 0 0.3125 0.098 84674 40894 23 0.4000 0.3528 0 0.2400 0.0071 250255 135801 24 0.1875 0.2488 0 0.2607 0.012 30246 3844 25 0.1429 | 14 | | 0.0667 | | | 0.4573 | | | | 0.4667 | 0.0091 | 710532 | 687639 |
| 16 0.3600 0.1990 0.4400 0.010 80441 6949 17 0.0952 0.4071 0.4762 0.0204 14536 2351 18 0.2400 0 0.3564 0.4000 0.036 46656 188741 19 0.2143 0.1400 0.3564 0.4000 0.036 46656 188741 19 0.2143 0.1400 0.3564 0.4000 0.0328 0 0 20 0.1923 0.3769 0.4433 0.4629 0.0022 22223 888 22 0.1875 0.4900 0 0.3125 0.0088 84674 40894 23 0.4000 0.3528 0.2400 0.071 250925 135801 24 0.1875 0.2488 0.2800 0.5625 0.0012 30246 3844 25 0.1429 0.2800 0.2192 0.6154 0.0110 1471 55 28 0.2667 0.4000 0.19 | 15 | | 0.5000 | | | 0.2475 | | | | 0.2500 | 0.0025 | 1004390 | 561659 |
| 17 0.0952 0.4071 0.4762 0.0204 14536 2351 18 0.2400 0 0.3564 0.4000 0.0036 466656 188741 19 0.2143 0.1400 0 0.3564 0.4000 0.0028 0 0 20 0.1923 0.3769 0 0.4231 0.0075 60831 20101 21 0.0667 0 0.4433 0.4667 0.0222 2223 888 22 0.1875 0.4900 0.3528 0.2400 0.0071 250925 135801 24 0.1875 0.2488 0 0.5625 0.012 30246 3844 25 0.1429 0.2800 0.5714 0.0056 8522 3471 26 0.4000 0.1900 0.2192 0.6154 0.0110 1471 55 28 0.2667 0.0400 0.1960 0.4573 0.2667 0.0091 862783 1255790 29 | 16 | | 0.3600 | | | | 0.1990 | | | 0.4400 | 0.0010 | 80441 | 6949 |
| 18 0.2400 0.3564 0.4000 0.036 466656 188741 19 0.2143 0.1400 0.3769 0.6429 0.0028 0 0 20 0.1923 0.3769 0.4433 0.4667 0.0222 2223 888 21 0.0667 0.4900 0.4433 0.4667 0.0222 22233 888 22 0.1875 0.4900 0.3528 0.2400 0.0071 250925 135801 24 0.1875 0.2488 0.2800 0.5625 0.012 30246 3844 25 0.1429 0.2800 0.5714 0.0568 8522 3471 26 0.4000 0.1900 0.2192 0.6154 0.0110 1471 55 28 0.2667 0.4573 0.2667 0.0400 9039 320447 128201 30 0.2052 0.4200 0.4573 0.2667 0.0383 1255790 29 0.4000 0.0952 | 17 | | 0.0952 | | | | 0.4071 | | | 0.4762 | 0.0204 | 14536 | 2351 |
| 19 0.2143 0.1400 0.6429 0.0028 0 0 20 0.1923 0.3769 0.4231 0.0075 60831 20101 21 0.0667 0.4433 0.4667 0.0222 22223 888 22 0.1875 0.4900 0.3125 0.0098 84674 40894 23 0.4000 0.3528 0.2400 0.0071 250925 135801 24 0.1875 0.2488 0.2800 0.5625 0.012 30246 3844 25 0.1429 0.2800 0.5714 0.0056 8522 3471 26 0.4000 0.1900 0.2192 0.6154 0.0110 1471 55 28 0.2667 0.4573 0.2667 0.0490 320447 128201 30 0.00952 0.4200 0.4762 0.0084 927817 76664 31 0.0833 0.3267 0.5833 0.0065 0 0 32 </td <td>18</td> <td></td> <td>0.2400</td> <td></td> <td></td> <td></td> <td></td> <td>0.3564</td> <td></td> <td>0.4000</td> <td>0.0036</td> <td>466656</td> <td>188741</td> | 18 | | 0.2400 | | | | | 0.3564 | | 0.4000 | 0.0036 | 466656 | 188741 |
| 20 0.1923 0.3769 0.4231 0.0075 60831 20101 21 0.0667 0.4900 0.4433 0.4667 0.0222 2223 888 22 0.1875 0.4900 0.3125 0.0098 84674 40894 23 0.4000 0.3528 0.2400 0.0071 250925 135801 24 0.1875 0.2488 0.2800 0.5625 0.012 30246 3844 25 0.1429 0.2800 0.5714 0.0056 8522 3471 26 0.4000 0.1900 0.2192 0.6154 0.0110 1471 55 28 0.2667 0.4000 0.1960 0.4000 0.0039 320447 128201 30 0.0952 0.4200 0.4200 0.4762 0.0084 927817 766664 31 0.0833 0.04200 0.3267 0.5833 0.0065 0 0 32 0.1538 0.3267 0.5833 | 19 | | 0.2143 | | | 0.1400 | | | | 0.6429 | 0.0028 | 0 | 0 |
| 21 0.0667 0.4900 0.4433 0.4667 0.0222 2223 888 22 0.1875 0.4900 0.3125 0.0098 84674 40894 23 0.4000 0.3528 0.2400 0.0071 250925 135801 24 0.1875 0.2488 0.2800 0.5625 0.012 30246 3844 25 0.1429 0.2800 0.2800 0.5714 0.0056 8522 3471 26 0.4000 0.1900 0.2192 0.6154 0.0110 1471 55 28 0.2667 0.4000 0.1960 0.4573 0.2667 0.0091 862783 1255790 29 0.4000 0.1960 0.4573 0.2667 0.0084 927817 76664 31 0.0833 0.4200 0.3267 0.5833 0.0055 0 0 32 0.1538 0.3267 0.2285 0.6154 0.0023 16091 5874 33 | 20 | | 0.1923 | | | 0.3769 | | | | 0.4231 | 0.0075 | 60831 | 20101 |
| 22 0.1875 0.4900 0.3125 0.0098 84674 40894 23 0.4000 0.3528 0.2400 0.0071 250925 135801 24 0.1875 0.2488 0.5625 0.012 30246 3844 25 0.1429 0.2800 0.5714 0.0566 8522 3471 26 0.4000 0.1900 0.2192 0.6154 0.0110 1471 55 28 0.2667 0.4000 0.1900 0.2192 0.6154 0.0110 1471 55 28 0.2667 0.4000 0.1960 0.4573 0.2667 0.0091 862783 1255790 29 0.4000 0.1960 0.4573 0.2667 0.0084 927817 76664 31 0.0833 0.4200 0.3267 0.5833 0.0065 0 0 32 0.1538 0.3267 0.5833 0.0055 0 0 33 0.4000 0.1538 <td< td=""><td>21</td><td></td><td></td><td>0.0667</td><td></td><td></td><td></td><td></td><td>0.4433</td><td>0.4667</td><td>0.0222</td><td>22223</td><td>888</td></td<> | 21 | | | 0.0667 | | | | | 0.4433 | 0.4667 | 0.0222 | 22223 | 888 |
| 23 0.4000 0.3528 0.2400 0.0071 250925 135801 24 0.1875 0.2488 0.05625 0.0012 30246 3844 25 0.1429 0.2800 0.5714 0.0056 8522 3471 26 0.4000 0.1900 0.2192 0.6154 0.0110 1471 55 28 0.2667 0.2667 0.4000 0.1960 0.2192 0.6154 0.0110 1471 55 28 0.2667 0.4000 0.1960 0.4573 0.2667 0.0091 862783 1255790 29 0.4000 0.1960 0.4573 0.2667 0.0084 927817 766664 31 0.0833 0.4200 0.3267 0.5833 0.0065 0 0 32 0.1538 0.3267 0.2285 0.6154 0.0023 16091 5874 33 0.4000 0.5333 0.0020 25420 4770 34 0.4500 | 22 | | 0.1875 | | | 0.4900 | | | | 0.3125 | 0.0098 | 84674 | 40894 |
| 24 0.1875 0.2488 0.2800 0.5625 0.0012 30246 3844 25 0.1429 0 0.2800 0.5714 0.0056 8522 3471 26 0.4000 0.1900 0.1900 0.4000 0.0095 50450 38849 27 0.1538 0.2667 0.010 0.2192 0.6154 0.0110 1471 55 28 0.2667 0 0.1960 0.4000 0.0039 320447 128201 30 0.0952 0.4200 0.4200 0.44000 0.0039 320447 128201 30 0.0952 0.4200 0.3267 0.5833 0.0065 0 0 31 0.0833 0.1538 0.3267 0.5833 0.0023 16091 5874 33 0.4000 0.1538 0.4750 0.1000 0.0238 52518 3157 34 0.4500 0 0.3554 0.2857 0.0018 392632 173181 </td <td>23</td> <td></td> <td>0.4000</td> <td></td> <td></td> <td>0.3528</td> <td></td> <td></td> <td></td> <td>0.2400</td> <td>0.0071</td> <td>250925</td> <td>135801</td> | 23 | | 0.4000 | | | 0.3528 | | | | 0.2400 | 0.0071 | 250925 | 135801 |
| 250.14290.28000.57140.005685223471260.40000.19000.19000.40000.00955045038849270.153800.19000.21920.61540.0110147155280.266700.45730.26670.00918627831255790290.40000.19600.45730.26670.0039320447128201300.09520.42000.42000.47620.084927817766664310.08330.15380.32670.58330.006500320.153800.47500.10000.0238525183157340.450000.35540.28570.0018392632173181360.25000.40830.40830.33330.082932014675889 | 24 | | | 0.1875 | 0.2488 | | | | | 0.5625 | 0.0012 | 30246 | 3844 |
| 26 0.4000 0.1900 0.4000 0.0095 50450 38849 27 0.1538 0 0 0.2192 0.6154 0.0110 1471 55 28 0.2667 0 0.4573 0.2667 0.0091 862783 1255790 29 0.4000 0.1960 0.4573 0.4000 0.0039 320447 128201 30 0.0952 0.4200 0.4762 0.084 927817 766664 31 0.0833 0.3267 0.5833 0.0065 0 0 32 0.1538 0.3267 0.2853 0.6154 0.0023 16091 5874 33 0.4000 0.1538 0.4750 0.1000 0.0238 52518 3157 34 0.4500 0.3554 0.1980 0.3500 0.0020 25420 4770 35 0.3571 0.3554 0.2857 0.018 392632 173181 36 0.2500 0.4083 | 25 | | 0.1429 | | | | 0.2800 | | | 0.5714 | 0.0056 | 8522 | 3471 |
| 270.153800.21920.61540.0110147155280.26670.45730.26670.00918627831255790290.40000.19600.45730.26670.009186278312501300.09520.42000.47620.084927817766644310.08330.32670.58330.006500320.15380.32670.22850.61540.0023160915874330.4000000.47500.10000.0238525183157340.450000.35540.19800.35000.0020254204770350.35710.355400.33330.0082932014675889360.25000.40830.33330.0822932014675889 | 26 | | | 0.4000 | | 0.1900 | | | | 0.4000 | 0.0095 | 50450 | 38849 |
| 28 0.2667 0.4573 0.2667 0.0091 862783 1255790 29 0.4000 0.01960 0.4000 0.0039 320447 128201 30 0.0952 0.4200 0.4200 0.4762 0.0084 927817 766664 31 0.0833 0.1538 0.3267 0.5833 0.0065 0 0 32 0.1538 0.3267 0.2285 0.6154 0.0023 16091 5874 33 0.4000 0.1538 0 0.4750 0.1000 0.0238 52518 3157 34 0.4500 0.3554 0 0.2857 0.018 392632 173181 36 0.2500 0.4083 0.3333 0.0082 932014 675889 | 27 | 0.1538 | | | | | | 0.2192 | | 0.6154 | 0.0110 | 1471 | 55 |
| 29 0.4000 0.1960 0.4000 0.0039 320447 128201 30 0.0952 0.4200 0.4762 0.0084 927817 766664 31 0.0833 0.3267 0.5833 0.0065 0 0 32 0.1538 0.3267 0.2285 0.6154 0.0023 16091 5874 33 0.4000 0.1538 0.4750 0.1000 0.0238 52518 3157 34 0.4500 0.3554 0.2857 0.0018 392632 173181 36 0.2500 0.4083 0.3333 0.0082 932014 675889 | 28 | | 0.2667 | | | | 0.4573 | | | 0.2667 | 0.0091 | 862783 | 1255790 |
| 30 0.0952 0.4200 0.4762 0.0084 927817 766664 31 0.0833 0.3267 0.5833 0.0065 0 0 32 0.1538 0.1538 0.2285 0.6154 0.0023 16091 5874 33 0.4000 0 0.4750 0.1000 0.0238 52518 3157 34 0.4500 0.3554 0.1980 0.3500 0.0020 25420 4770 35 0.3571 0.3554 0.2857 0.0018 392632 173181 36 0.2500 0.4083 0.3333 0.0082 932014 675889 | 29 | | 0.4000 | | | 0.1960 | | | | 0.4000 | 0.0039 | 320447 | 128201 |
| 31 0.0833 0.3267 0.5833 0.0065 0 0 32 0.1538 0.1538 0.2285 0.6154 0.0023 16091 5874 33 0.4000 0.4000 0.4750 0.1000 0.0238 52518 3157 34 0.4500 0.3554 0.1980 0.3500 0.0020 25420 4770 35 0.3571 0.3554 0.2857 0.0018 392632 173181 36 0.2500 0.4083 0.3333 0.0082 932014 675889 | 30 | | 0.0952 | | | 0.4200 | | | | 0.4762 | 0.0084 | 927817 | 766664 |
| 32 0.1538 0.2285 0.6154 0.0023 16091 5874 33 0.4000 0 0.4750 0.1000 0.0238 52518 3157 34 0.4500 0.3554 0.1980 0.3500 0.0020 25420 4770 35 0.3571 0.3554 0.2857 0.0018 392632 173181 36 0.2500 0.4083 0.3333 0.0082 932014 675889 | 31 | | 0.0833 | | | | 0.3267 | | | 0.5833 | 0.0065 | 0 | 0 |
| 33 0.4000 0.4000 0.0238 52518 3157 34 0.4500 0.1000 0.0238 52518 3157 35 0.3571 0.3554 0.2857 0.0018 392632 173181 36 0.2500 0.4083 0.3333 0.0082 932014 675889 | 32 | | | 0.1538 | | | | | 0.2285 | 0.6154 | 0.0023 | 16091 | 5874 |
| 34 0.4500 0.1980 0.3500 0.0020 25420 4770 35 0.3571 0.3554 0.2857 0.0018 392632 173181 36 0.2500 0.4083 0.3333 0.0082 932014 675889 | 33 | 0.4000 | | | | | | 0.4750 | | 0.1000 | 0.0238 | 52518 | 3157 |
| 35 0.3571 0.3554 0.2857 0.0018 392632 173181 36 0.2500 0.4083 0.3333 0.0082 932014 675889 | 34 | | 0.4500 | | | | | | 0.1980 | 0.3500 | 0.0020 | 25420 | 4770 |
| <i>36</i> 0.2500 0.4083 0.3333 0.0082 932014 675889 | 35 | | 0.3571 | | | 0.3554 | | | | 0.2857 | 0.0018 | 392632 | 173181 |
| | 36 | | 0.2500 | | | 0.4083 | | | | 0.3333 | 0.0082 | 932014 | 675889 |

4th Generation

| | Li01/2 | KO1/2 | NaO1/2 | Mgo | SrO | CaO | BaO | ZnO | PO5/2 | EuO3/2 | λ _{ex} =254nm | λ _{ex} =390nm |
|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------------------------|------------------------|
| 1 | | 0.3333 | | | | | 0.2369 | | 0.4286 | 0.0012 | 264091 | 19589 |
| 2 | | | 0.3333 | | 0.4083 | | | | 0.2500 | 0.0082 | 10635 | 2357 |
| 3 | | 0.0556 | | | 0.5278 | | | | 0.3889 | 0.0264 | 337462 | 321393 |
| 4 | | 0.2308 | | | | 0.3769 | | | 0.3846 | 0.0075 | 28796 | 18328 |
| 5 | | 0.1333 | | | 0.1960 | | | | 0.6667 | 0.0039 | 119920 | 162426 |
| 6 | | | 0.0667 | | | | | 0.4643 | 0.4667 | 0.0023 | 9501 | 8357 |
| 7 | | 0.3889 | | | 0.3167 | | | | 0.2778 | 0.0158 | 175016 | 375307 |
| 8 | | 0.2800 | | | 0.3528 | | | | 0.3600 | 0.0071 | 38720 | 379561 |
| 9 | 0.3077 | | | | 0.3769 | | | | 0.3077 | 0.0075 | 18935 | 10430 |
| 10 | | | 0.6364 | | 0.0891 | | | | 0.2727 | 0.0018 | 14011 | 15845 |
| 11 | | 0.2667 | | | | | 0.3300 | | 0.4000 | 0.0033 | 758229 | 416615 |
| 12 | | | 0.2400 | | | | 0.3582 | | 0.4000 | 0.0018 | 1056340 | 432146 |
| 13 | 0.1579 | | | | 0.2579 | | | | 0.5789 | 0.0052 | 54285 | 102932 |
| 14 | | | 0.1765 | 0.4097 | | | | | 0.4118 | 0.0020 | 101475 | 100476 |
| 15 | | 0.0952 | | | | 0.4200 | | | 0.4762 | 0.0084 | 13671 | 18183 |
| 16 | | 0.1875 | | | 0.4750 | | | | 0.3125 | 0.0238 | 15849 | 23885 |
| 17 | | 0.2000 | | | | 0.3167 | | | 0.4667 | 0.0158 | 11962 | 7483 |
| 18 | | 0.3636 | | | | | | 0.2700 | 0.3636 | 0.0027 | 17013 | 13941 |
| 19 | | 0.0625 | | | | | 0.3713 | | 0.5625 | 0.0037 | 8999 | 5674 |
| 20 | 0.0667 | | | | 0.1990 | | | | 0.7333 | 0.0010 | 8220 | 21025 |
| 21 | | 0.4583 | | | 0.1658 | | | | 0.3750 | 0.0008 | 166265 | 114368 |
| 22 | 0.2500 | | | | | | | 0.2940 | 0.4500 | 0.0059 | 10111 | 22670 |
| 23 | | 0.3043 | | | 0.3835 | | | | 0.3043 | 0.0077 | 22558 | 23826 |
| 24 | | | 0.1875 | | | | | 0.4900 | 0.3125 | 0.0098 | 8973 | 11284 |
| 25 | | 0.1429 | | | | 0.5429 | | | 0.2857 | 0.0271 | 21907 | 54286 |
| 26 | | 0.3000 | | | 0.2850 | | | | 0.4000 | 0.0143 | 14857 | 23137 |
| 27 | | 0.2400 | | | | | 0.3582 | | 0.4000 | 0.0018 | 516368 | 170974 |
| 28 | | | 0.3636 | | 0.0900 | | | | 0.5455 | 0.0009 | 60469 | 100246 |
| 29 | | 0.4000 | | | 0.2660 | | | | 0.3200 | 0.0133 | 14028 | 14266 |
| 30 | | 0.3000 | | | 0.3167 | | | | 0.3667 | 0.0158 | 252863 | 241788 |
| 31 | | 0.2500 | | | 0.3500 | | | | 0.3929 | 0.0070 | 32342 | 266750 |
| 32 | | 0.3500 | | | 0.2940 | | | | 0.3500 | 0.0059 | 363508 | 399240 |
| 33 | 0.0625 | | | | 0.3675 | | | | 0.5625 | 0.0074 | 294210 | 225274 |
| 34 | | 0.1667 | | | | | | 0.4125 | 0.4167 | 0.0041 | 13757 | 17845 |
| 35 | | 0.4286 | | | | | 0.2369 | | 0.3333 | 0.0012 | 1055190 | 430689 |
| 36 | | 0.2667 | | | | 0.4573 | | | 0.2667 | 0.0091 | 910890 | 1308380 |

5th Generation

| | LiO1/2 | KO1/2 | NaO1/2 | Mgo | SrO | CaO | BaO | ZnO | PO5/2 | EuO3/2 | λ _{ex} =254nm | λ _{ex} =390nm |
|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------------------------|------------------------|
| 1 | | 0.3000 | | | 0.2940 | | | | 0.4000 | 0.0059 | 205793 | 268984 |
| 2 | | | 0.5455 | | 0.2700 | | | | 0.1818 | 0.0027 | 294212 | 8773 |
| 3 | | 0.1250 | | | | | 0.4146 | | 0.4583 | 0.0021 | 129061 | 9247 |
| 4 | | 0.2381 | | | | | 0.3317 | | 0.4286 | 0.0017 | 361203 | 165718 |
| 5 | | | 0.1765 | | 0.4035 | | | | 0.4118 | 0.0081 | 236763 | 320700 |
| 6 | | | 0.3333 | 0.4146 | | | | | 0.2500 | 0.0021 | 168837 | 11909 |
| 7 | | 0.0714 | | | | 0.4200 | | | 0.5000 | 0.0084 | 7058 | 4679 |
| 8 | | 0.2632 | | | | | 0.4689 | | 0.2632 | 0.0047 | 287273 | 197839 |
| 9 | | | 0.3636 | | 0.0905 | | | | 0.5455 | 0.0005 | 122608 | 71156 |
| 10 | | | 0.2400 | | | | 0.3564 | | 0.4000 | 0.0036 | 973406 | 494062 |
| 11 | | 0.3889 | | | 0.3267 | | | | 0.2778 | 0.0065 | 647338 | 629699 |
| 12 | | 0.2800 | | | 0.3420 | | | | 0.3600 | 0.0171 | 460369 | 514836 |
| 13 | 0.1579 | | | | 0.2579 | | | | 0.5789 | 0.0052 | 225059 | 270145 |
| 14 | | 0.3846 | | | | | 0.5331 | | 0.0769 | 0.0053 | 121 | 117 |
| 15 | 0.3478 | | | | | | 0.3874 | | 0.2609 | 0.0039 | 495654 | 226097 |
| 16 | 0.0952 | | | | 0.4200 | | | | 0.4762 | 0.0084 | 1124610 | 1088840 |
| 17 | | 0.2400 | | | | | 0.3528 | | 0.4000 | 0.0071 | 495432 | 224350 |
| 18 | | 0.0952 | | | | 0.4264 | | | 0.4762 | 0.0021 | 23130 | 174868 |
| 19 | | 0.3913 | | 0.2130 | | | | | 0.3913 | 0.0043 | 34423 | 2399 |
| 20 | | | 0.2381 | | | | 0.3317 | | 0.4286 | 0.0017 | 727872 | 340732 |
| 21 | | 0.3636 | | | 0.2673 | | | | 0.3636 | 0.0053 | 403172 | 377589 |
| 22 | | 0.2800 | | | | | | 0.3564 | 0.3600 | 0.0036 | 7929 | 2503 |
| 23 | | 0.2778 | | | | 0.4356 | | | 0.2778 | 0.0087 | 44827 | 6781 |
| 24 | 0.3000 | | | 0.4900 | | | | | 0.2000 | 0.0098 | 225524 | 74901 |
| 25 | 0.2143 | | | | 0.1400 | | | | 0.6429 | 0.0028 | 52543 | 32686 |
| 26 | 0.4286 | | | | 0.2333 | | | | 0.3333 | 0.0047 | 147169 | 218376 |
| 27 | | | 0.2400 | | 0.3564 | | | | 0.4000 | 0.0036 | 388503 | 341413 |
| 28 | | 0.3636 | | | | | 0.0905 | | 0.5455 | 0.0005 | 9708 | 9874 |
| 29 | | | 0.1818 | | | | 0.3618 | | 0.4545 | 0.0018 | 15953 | 3141 |
| 30 | | 0.4583 | | | | | 0.2488 | | 0.2917 | 0.0012 | 710654 | 266884 |
| 31 | | 0.0556 | | | 0.5528 | | | | 0.3889 | 0.0028 | 232813 | 7688 |
| 32 | | 0.4583 | | | 0.1583 | | | | 0.3750 | 0.0079 | 15729 | 7668 |
| 33 | | 0.1579 | | | | | 0.2605 | | 0.5789 | 0.0026 | 3100 | 325 |
| 34 | 0.2667 | | | | 0.3267 | | | | 0.4000 | 0.0065 | 42251 | 58014 |
| 35 | | | 0.2400 | | | | 0.3582 | | 0.4000 | 0.0018 | 890067 | 396439 |
| 36 | | 0.2667 | | | | 0.4573 | | | 0.2667 | 0.0091 | 698836 | 1113720 |

1st Swarm

| | k | Sr | Ba | Ca | Р | Eu | <mark>λ_{ex}=400nm</mark> |
|----|--------|--------|--------|--------|--------|--------|-----------------------------------|
| 1 | 0.2864 | 0.0452 | 0.0750 | 0.0380 | 0.5522 | 0.0032 | fail |
| 2 | 0.3118 | 0.2006 | 0.0005 | 0.1121 | 0.3686 | 0.0064 | 2938 |
| 3 | 0.6658 | 0.0667 | 0.0540 | 0.0361 | 0.1743 | 0.0032 | 1966 |
| 4 | 0.3372 | 0.0568 | 0.0623 | 0.3491 | 0.1850 | 0.0096 | 2146 |
| 5 | 0.5650 | 0.0520 | 0.0498 | 0.1083 | 0.2206 | 0.0043 | 3880 |
| 6 | 0.2983 | 0.4156 | 0.0572 | 0.0694 | 0.1485 | 0.0111 | fail |
| 7 | 0.4380 | 0.0454 | 0.3075 | 0.0620 | 0.1386 | 0.0085 | fail |
| 8 | 0.2602 | 0.0142 | 0.1070 | 0.1884 | 0.4239 | 0.0063 | fail |
| 9 | 0.5777 | 0.2317 | 0.0086 | 0.0473 | 0.1288 | 0.0059 | 148 |
| 10 | 0.3999 | 0.1492 | 0.0199 | 0.0133 | 0.4141 | 0.0037 | fail |
| 11 | 0.3245 | 0.1169 | 0.0940 | 0.1799 | 0.2768 | 0.0080 | 7060 |
| 12 | 0.5007 | 0.0696 | 0.0072 | 0.0521 | 0.3677 | 0.0026 | fail |
| 13 | 0.2729 | 0.0617 | 0.1434 | 0.1820 | 0.3321 | 0.0079 | 8003 |
| 14 | 0.5261 | 0.1458 | 0.0599 | 0.0784 | 0.1841 | 0.0058 | 2061 |
| 15 | 0.2437 | 0.0071 | 0.0994 | 0.3398 | 0.3008 | 0.0091 | 11972 |
| 16 | 0.5523 | 0.0731 | 0.0594 | 0.0001 | 0.3124 | 0.0027 | fail |
| 17 | 0.2856 | 0.0210 | 0.3060 | 0.1377 | 0.2403 | 0.0095 | 5384 |
| 18 | 0.3118 | 0.0897 | 0.0506 | 0.1730 | 0.3686 | 0.0064 | fail |

2nd Swarm

| | k | Sr | Ва | Ca | Р | Eu | <mark>λ_{ex}=400nm</mark> |
|----|--------|--------|--------|--------|--------|--------|-----------------------------------|
| 1 | 0.2460 | 0.0712 | 0.0000 | 0.2355 | 0.4410 | 0.0063 | fail |
| 2 | 0.3098 | 0.0000 | 0.0863 | 0.2331 | 0.3644 | 0.0065 | fail |
| 3 | 0.5073 | 0.0000 | 0.1366 | 0.1958 | 0.1534 | 0.0068 | fail |
| 4 | 0.3306 | 0.0152 | 0.0727 | 0.2910 | 0.2827 | 0.0077 | <i>9953</i> |
| 5 | 0.4313 | 0.0251 | 0.1146 | 0.2581 | 0.1628 | 0.0081 | fail |
| 6 | 0.2376 | 0.0768 | 0.0864 | 0.3494 | 0.2393 | 0.0105 | 3489 |
| 7 | 0.2309 | 0.0417 | 0.3047 | 0.0696 | 0.3446 | 0.0085 | 8062 |
| 8 | 0.2412 | 0.0181 | 0.0398 | 0.3703 | 0.3219 | 0.0087 | 3508 |
| 9 | 0.2945 | 0.3340 | 0.0000 | 0.0873 | 0.2756 | 0.0086 | 1717 |
| 10 | 0.2309 | 0.4230 | 0.0573 | 0.1432 | 0.1327 | 0.0127 | 20 |
| 11 | 0.3011 | 0.0981 | 0.1007 | 0.2058 | 0.2861 | 0.0083 | 8317 |
| 12 | 0.3375 | 0.0000 | 0.0671 | 0.2053 | 0.3845 | 0.0056 | fail |
| 13 | 0.2633 | 0.0000 | 0.1301 | 0.3275 | 0.2698 | 0.0093 | fail |
| 14 | 0.3353 | 0.0000 | 0.1259 | 0.2527 | 0.2783 | 0.0077 | 3144 |
| 15 | 0.2437 | 0.0071 | 0.0994 | 0.3398 | 0.3008 | 0.0091 | 12232 |
| 16 | 0.5194 | 0.0385 | 0.1425 | 0.1768 | 0.1155 | 0.0073 | 491 |
| 17 | 0.2516 | 0.0198 | 0.0000 | 0.4481 | 0.2710 | 0.0095 | 10869 |
| 18 | 0.2330 | 0.1016 | 0.0292 | 0.2739 | 0.3541 | 0.0083 | 5653 |

3rd Swarm

| | k | Sr | Ва | Ca | Р | Eu | <mark>λ_{ex}=400nm</mark> |
|----|--------|--------|--------|--------|--------|--------|-----------------------------------|
| 1 | 0.2928 | 0.0084 | 0.3171 | 0.0391 | 0.3352 | 0.0074 | 6142 |
| 2 | 0.2831 | 0.1958 | 0.0285 | 0.2039 | 0.2800 | 0.0087 | 4034 |
| 3 | 0.6185 | 0.0305 | 0.0273 | 0.0703 | 0.2507 | 0.0026 | fail |
| 4 | 0.2908 | 0.0042 | 0.0945 | 0.3352 | 0.2664 | 0.0089 | fail |
| 5 | 0.4849 | 0.0108 | 0.0938 | 0.2087 | 0.1954 | 0.0064 | 2810 |
| 6 | 0.2465 | 0.0000 | 0.1012 | 0.3346 | 0.3088 | 0.0089 | 11472 |
| 7 | 0.2359 | 0.0000 | 0.1532 | 0.3162 | 0.2851 | 0.0096 | fail |
| 8 | 0.2415 | 0.0000 | 0.0951 | 0.3350 | 0.3196 | 0.0088 | 14211 |
| 9 | 0.2726 | 0.0000 | 0.1381 | 0.2942 | 0.2863 | 0.0088 | <i>5312</i> |
| 10 | 0.2600 | 0.0000 | 0.0461 | 0.0670 | 0.6245 | 0.0023 | fail |
| 11 | 0.2996 | 0.0000 | 0.1041 | 0.2976 | 0.2904 | 0.0082 | 5022 |
| 12 | 0.5742 | 0.0566 | 0.0324 | 0.0720 | 0.2616 | 0.0033 | fail |
| 13 | 0.2426 | 0.0413 | 0.1558 | 0.2323 | 0.3193 | 0.0088 | 9816 |
| 14 | 0.2309 | 0.0086 | 0.0693 | 0.4577 | 0.2226 | 0.0109 | 2828 |
| 15 | 0.2437 | 0.0071 | 0.0994 | 0.3398 | 0.3008 | 0.0091 | 12239 |
| 16 | 0.2309 | 0.0000 | 0.1214 | 0.2492 | 0.3909 | 0.0076 | fail |
| 17 | 0.2500 | 0.0031 | 0.0497 | 0.3903 | 0.2979 | 0.0090 | 8366 |
| 18 | 0.2426 | 0.0520 | 0.0624 | 0.3134 | 0.3209 | 0.0087 | 3536 |

4th Swarm

| | k | Sr | Ba | Ca | Р | Eu | <mark>λ_{ex}=400nm</mark> |
|----|--------|--------|--------|--------|--------|--------|-----------------------------------|
| 1 | 0.2430 | 0.0070 | 0.0000 | 0.4154 | 0.3259 | 0.0086 | 8485 |
| 2 | 0.2309 | 0.1208 | 0.0538 | 0.2170 | 0.3696 | 0.0080 | 3640 |
| 3 | 0.2680 | 0.0807 | 0.0189 | 0.3201 | 0.3037 | 0.0086 | 7754 |
| 4 | 0.2541 | 0.0028 | 0.0799 | 0.3105 | 0.3447 | 0.0080 | 5893 |
| 5 | 0.4124 | 0.1312 | 0.0227 | 0.1735 | 0.2535 | 0.0067 | 3819 |
| 6 | 0.2457 | 0.0001 | 0.0920 | 0.3324 | 0.3211 | 0.0087 | 8769 |
| 7 | 0.2377 | 0.0712 | 0.3484 | 0.0123 | 0.3215 | 0.0088 | 5881 |
| 8 | 0.2415 | 0.0000 | 0.0951 | 0.3350 | 0.3196 | 0.0088 | 13369 |
| 9 | 0.2560 | 0.0001 | 0.0977 | 0.3194 | 0.3184 | 0.0085 | 10802 |
| 10 | 0.2952 | 0.4643 | 0.0000 | 0.1133 | 0.1155 | 0.0118 | 35 |
| 11 | 0.2783 | 0.0725 | 0.0712 | 0.2702 | 0.2994 | 0.0084 | 5543 |
| 12 | 0.3165 | 0.1256 | 0.0000 | 0.2025 | 0.3488 | 0.0067 | 7707 |
| 13 | 0.2621 | 0.0424 | 0.0679 | 0.3067 | 0.3125 | 0.0085 | 7570 |
| 14 | 0.3536 | 0.0052 | 0.0919 | 0.3078 | 0.2332 | 0.0083 | 5315 |
| 15 | 0.2432 | 0.0000 | 0.0949 | 0.3278 | 0.3256 | 0.0086 | 11948 |
| 16 | 0.4209 | 0.0908 | 0.1293 | 0.2343 | 0.1155 | 0.0093 | 78 |
| 17 | 0.2482 | 0.0252 | 0.0535 | 0.3676 | 0.2964 | 0.0091 | 9958 |
| 18 | 0.2387 | 0.0353 | 0.0638 | 0.2964 | 0.3577 | 0.0081 | 3677 |

5th Swarm

| | k | Sr | Ва | Ca | Р | Eu | <mark>λ_{ex}=400nm</mark> |
|----|--------|--------|--------|--------|--------|--------|-----------------------------------|
| 1 | 0.2414 | 0.0043 | 0.1389 | 0.2863 | 0.3203 | 0.0088 | 3935 |
| 2 | 0.2637 | 0.1190 | 0.0687 | 0.2611 | 0.2784 | 0.0092 | 2504 |
| 3 | 0.5571 | 0.0385 | 0.0597 | 0.0936 | 0.2472 | 0.0039 | <i>5285</i> |
| 4 | 0.3258 | 0.0190 | 0.0843 | 0.3234 | 0.2389 | 0.0087 | 6744 |
| 5 | 0.5992 | 0.0000 | 0.0630 | 0.1178 | 0.2164 | 0.0037 | 6151 |
| 6 | 0.2395 | 0.0000 | 0.1049 | 0.3420 | 0.3045 | 0.0091 | <i>9502</i> |
| 7 | 0.2309 | 0.0000 | 0.1841 | 0.1925 | 0.3848 | 0.0077 | fail |
| 8 | 0.2415 | 0.0000 | 0.0951 | 0.3350 | 0.3196 | 0.0088 | 14262 |
| 9 | 0.2516 | 0.0000 | 0.0965 | 0.3293 | 0.3139 | 0.0087 | 12938 |
| 10 | 0.4177 | 0.0000 | 0.0431 | 0.0700 | 0.4668 | 0.0023 | fail |
| 11 | 0.3194 | 0.0000 | 0.1314 | 0.2618 | 0.2793 | 0.0080 | 1763 |
| 12 | 0.2909 | 0.0000 | 0.0767 | 0.2876 | 0.3374 | 0.0074 | 5248 |
| 13 | 0.2602 | 0.0000 | 0.1823 | 0.2264 | 0.3228 | 0.0083 | 10323 |
| 14 | 0.3108 | 0.0000 | 0.0965 | 0.3270 | 0.2570 | 0.0086 | 7704 |
| 15 | 0.2429 | 0.0080 | 0.0933 | 0.3285 | 0.3184 | 0.0088 | 13537 |
| 16 | 0.3890 | 0.0000 | 0.1233 | 0.2783 | 0.2012 | 0.0082 | 7393 |
| 17 | 0.2427 | 0.0071 | 0.0939 | 0.3752 | 0.2714 | 0.0097 | 4368 |
| 18 | 0.2188 | 0.0045 | 0.1072 | 0.3622 | 0.2977 | 0.0097 | 18534 |