ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ

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Taблица S1. Индицирование линий рентгенограммы образца 2 твердого раствора SrSO4 ∙ 0.5H2O, содержащего 90 ат. % Nd и 10 ат. % Sr

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| № | 2 θ(obs) | H KL | 2 θ(calc) | obs-calc | Int.% | d(obs) Å | d(calc) Å |
| 1 | 9.817 | Nd2(SO4)3 ∙ 8H2O |  |  | 0.5 | 9.0022 | 8.9690 [23] |
| 2 | 13.296 | Nd2(SO4)3 ∙ 8H2O |  |  | 1.4 | 6.6535 | 6.6531 [23] |
| 3 | 14.229 | 1 0 0 | 14.231 | -0.0018 | 46.8 | 6.2193 | 6.2185 |
| 4 | 14.553 | Nd2(SO4)3 ∙ 8H2O |  |  | 2,3 | 6.0816 | 6.0727 [23] |
| 5 | 14.698 | Nd2(SO4)3 ∙ 8H2O |  |  | 2.8 | 6.0219 | 6.0134 [23] |
| 6 | 18.390 | Nd2(SO4)3 ∙ 8H2O |  |  | 3.5 | 4.8205 | 4.8095 [23] |
| 7 | 19.630 | 1 0 1 | 19.607 | 0.0232 | 15.5 | 4.5186 | 4.5239 |
| 8 | 21.276 | Nd2(SO4)3 ∙ 8H2O |  |  | 0.8 | 4.1728 | 4.1674 [23] |
| 9 | 23.380 | Nd2(SO4)3 ∙ 8H2O |  |  | 1.9 | 3.8018 | 3.7939 [23] |
| 10 | 23858 | Nd2(SO4)3 ∙ 8H2O |  |  | 3.3 | 3.7266 | 3.7190 [23] |
| 11 | 24.787 | 1 1 0 | 24.779 | 0.0098 | 55.0 | 3.5890 | 3.5903 |
| 12 | 25.746 | Nd2(SO4)3 ∙ 8H2O |  |  | 1.0 | 3.4575 | 3.4460 [23] |
| 13 | 26.021 | Nd2(SO4)3 ∙ 8H2O |  |  | 0.8 | 3.4216 | 3.4125 [23] |
| 14 | 26,210 | Nd2(SO4)3 ∙ 8H2O |  |  | 1.3 | 3.3973 | 3.3893 [23] |
| 15 | 28.285 | 1 1 1 | 28.281 | 0.0040 | 1.8 | 3.1527 | 3.1531 |
| 16 | 28.694 | 2 0 0 | 28.688 | 0.0061 | 84.0 | 3.1086 | 3.1093 |
| 17 | 29.339 | Nd2(SO4)3 ∙ 8H2O |  |  | 2.4 | 3.0418 | 3.0363 [23] |
| 18 | 29.833 | Nd2(SO4)3 ∙ 8H2O |  |  | 1.1 | 2.9925 | 3.0067 [23] |
| 19 | 30.014 | Nd2(SO4)3 ∙ 8H2O |  |  | 0.9 | 2.9748 | 2.9832 [23] |
| 20 | 30.674 | 1 0 2 | 30.669 | 0.0045 | 100 | 2.9123 | 2.9128 |
| 21 | 31.800 | 2 0 1 | 31.794 | 0.0057 | 0.6 | 2.8118 | 2.8123 |
| 22 | 32.856 | Nd2(SO4)3 ∙ 8H2O |  |  | 1.6 | 2.7237 | 2.7230 |
| 23 | 33.891 | Nd2(SO4)3 ∙ 8H2O |  |  | 1.7 | 2.6429 | 2.6400 [23] |
| 24 | 34.732 | Nd2(SO4)3 ∙ 8H2O |  |  | 0.6 | 2.5808 | 2.5732 [23] |
| 25 | 35.434 | Nd2(SO4)3 ∙ 8H2O |  |  | 1.3 | 2.5312 | 2.5263 [23] |
| 26 | 35.577 | Nd2(SO4)3 ∙ 8H2O |  |  | 0.6 | 2.5214 | 2.5155 [23] |
| 27 | 36.107 | Nd2(SO4)3 ∙ 8H2O |  |  | 0.4 | 2.4856 | 2.4794 [23] |
| 28 | 36.972 | 1 1 2 | 36.989 | -0.0169 | 13,7 | 2.4294 | 2.4283 |
| 29 | 37.224 | Nd2(SO4)3 ∙ 8H2O |  |  | 0.5 | 2.4136 | 2.4113 [23] |
| 30 | 38.251  | 2 1 0 | 38.263  | -0.0119 | 8.8 | 2.3511 | 2.3504 |
| 31 | 39.820 | 2 0 2  | 39.820 | 0.0005 | 6.4 | 2.2619 | 2.2620 |
| 32 | 40.022 | Nd2(SO4)3 ∙ 8H2O |  |  | 2.1 | 2.2510 | 2.2559 [23] |
| 33 | 40.718 | 2 1 1 | 40.722 | -0.0044 | 34.2 | 2.2142 | 2.2139 |
| 34 | 41.038 | 0 0 3 | 41.033 | 0.0047 | 12.9 | 2.1976 | 2.1979 |
| 35 | 41.294 | Nd2(SO4)3 ∙ 8H2O |  |  | 0.5 | 2.1846 | 2.1882 [23] |
| 36 | 41.750 | Nd2(SO4)3 ∙ 8H2O |  |  | 0.6 | 2.1617 | 2.1587 [23] |
| 37 | 41.963 | Nd2(SO4)3 ∙ 8H2O |  |  | 0.6 | 2.1513 | 2.1500 [23] |
| 38 | 42.192 | Nd2(SO4)3 ∙ 8H2O |  |  | 0.7 | 2.1401 | 2.1400 [23] |
| 39 | 43.294 | Nd2(SO4)3 ∙ 8H2O |  |  | 0.8 | 2.0882 | 2.0890 [23] |
| 40 | 43.646 | 30 0 | 43.631 | 0.0150 | 2,9 | 2.0722 | 2.0728 |
| 41 | 44.377 | Nd2(SO4)3 ∙ 8H2O |  |  | 0.5 | 2.0397 | 2.0360 [23] |
| 42 | 44.638 | Nd2(SO4)3 ∙ 8H2O |  |  | 0.7 | 2.0283 | 2.0309 [23] |
| 43 | 45.114 | Nd2(SO4)3 ∙ 8H2O |  |  | 2.7 | 2.0081 | 2.0030 [23] |
| 44 | 45.854 | 3 01 | 45.853 | 0.0016 | 10.1 | 1.9774 | 1.9774 |
| 45 | 47.471 | 2 12 | 47.469 | 0.0021 | 47.1 | 1.9137 | 1.9138 |
| 46 | 48.536 | 1 13 | 48.527 | 0.0090 | 4.3 | 1.8742 | 1.8745 |
| 47 | 48.826 | Nd2(SO4)3 ∙ 8H2O |  |  | 0.8 | 1.8637 | 1..8681 [23] |
| 48 | 49.487 | Nd2(SO4)3 ∙ 8H2O |  |  | 0.6 | 1.8404 | 1.8420 [23] |
| 49 | 50.831 | 2 2 0 | 50.822 | 0.0092 | 12.3 | 1.7948 | 1.7951 |

Тaблица S2. Индицирование линий рентгенограммы образца №10 твердого раствора SrSO4 , содержащего 10 ат. % Nd и 90 ат. % Sr

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| № | 2 θ(obs) | H KL | 2 θ(calc) | obs-calc | Int.% | d(obs) Å | d(calc) Å |
| 1 | 16.792 | -10 1 | 16.791 |  0.0015 |  4.3 | 5.2754 | 5.2758 |
| 2 | 18.066 |  11 0 | 18.079 | -0.0130 | 12.0 | 4.9062 | 4.9027 |
| 3 | 18.550 |  01 1  | 18.505 |  0.0553 |  5.7 | 4.7793 | 4.7909 |
| 4 | 20,905 | -11 1 | 20.904 |  0.0013 | 13.3 | 4.2459 | 4.2461 |
| 5 | 24.880 |  02 0  | 24.871 |  0.0097 | 22.2 | 3.5758 | 3.5772 |
| 6 | 26.443 |  20 0 | 26.459 | -0.0157 | 65.2 | 3.3679 | 3.3660 |
| 7 | 27.652 |  00 2 | 27.634 |  0.0188 |  8.1 | 3,2223 | 3.2255 |
| 8 | 28.214 |  12 0 | 28.228 | -.0.0139 | 100 | 3.1604 | 3.1589 |
| 9 | 29.273 |  21 0 | 29.300  | -0.0264 | 19.6 | 3.0484 | 3.0457 |
| 10 | 30.383 |  01 2 | 30.374 |  0.0095 | 99.8 | 2.9396 | 2.9404 |
| 11 | 30.599 | -112 | 30.605 | -0.0065 | 13.0 | 2.9193 | 2.9187 |
| 12 | 33.915 | -202 | 33.957 | -0.0414 | 30.4 | 2.6410 | 2.6379 |
| 13 | 35.644 |  112 | 35.666 | -0.0226 |  5.9 | 2.5168 | 2.5153 |
| 14 | 36.241 | -212 | 36.266 | -0.0256 | 14.1 | 2.4767 | 2.4750 |
| 15 | 36.614 |  220 | 36.629 | -0.0144 |  5.7 | 2.4523 | 2.4514 |
| 16 | 37.666 |  030 | 37.690 | -0.0232 |  2.8 | 2.3862 | 2.3848 |
| 17 | 39.452 | -301  | 39.465 | -0.0131  |  4.0 | 2.2822 | 2.2815 |
| 18 | 40.262 |  031 | 40.287 | -0.0245 | 20.9 | 2.2381 | 2.2368 |
| 19 | 41.101 | -103  | 41.117 | -0.0168 | 28.5 | 2.1944 | 2.1935 |
| 20 | 41.445 |  221 | 41.421 |  0.0238 | 34.7 | 2.1769 | 2.1781 |
| 21 | 42.161 |  310 | 42.171 | -0.0101 |  1,9 | 2.1416 | 2.1411 |
| 22 | 43.603 |  131 | 43.567 |  0.0359 |  2.7 | 2.0741 | 2.0757 |
| 23 | 44.788 |  212 | 44.787 |  0.0010 | 45.8 | 2.0219 | 2.0220 |
| 24 | 45.598 |  3 01 | 45.604 | -0.0068 |  5.8 | 1.9879 | 1.9876 |
| 25 | 46.993 | -231 | 46.983 |  0.0094 | 13.0 | 1.9321 | 1.9324 |
| 26 | 47.516 | -132 | 47.529 | -0.0132 | 36.8 | 1.9120 | 1.9115 |
| 27 | 47.794 |  320 | 47.810 | -0.0166 | 14.1 | 1.9015 | 1.9009 |
| 28 | 48.707 | -123 | 48.653 |  0.0546 |  2.8 | 1.8680 | 1.8700 |
| 29 | 49.412 |  023 | 49.413 | -0.0009 | 11.3 | 1.8430 | 1.8430 |
| 30 | 50.163 |  222  | 50.195 | -0.0320  |  1.7 | 1.8171 | 1.8161 |
| 31 | 50.719  |  231 | 50.659 |  0.0608 |  6.9 | 1.7985 | 1.8005 |
| 32 | 50.999 | -322 | 50.955 |  0.0433 | 30.9 | 1.7893 | 1.7907 |
| 33 | 51.220 |  132 | 51.175 |  0.0450 | 20.4 | 1.7821 | 1.7836 |
| 34 | 51.842 | -223 | 51.810 |  0.0318 |  6.7 | 1.7622 | 1.7632 |
| 35 | 52.913 |  140 | 52.925 | -0.0120 | 11,0 | 1.7290 | 1.7286 |
| 36 | 54.464 |  400 | 54.477 | -0.0129 |  2.8 | 1.6834 | 1.6830 |
| 37 | 55.679 | -4 02 | 55.702 | -0.0232 |  0.6 | 1.6495 | 1.6489 |
| 38 | 56.131 |  41 0  | 56.093 |  0.0379 | 10.4 | 1.6373 | 1.6383 |
| 39 | 56.352 |  31 2 | 56.312 |  0,0398 |  4.4 | 1.6314 | 1.6324 |
| 40 | 57.057 | -13 3 | 56.996 |  0.0613 |  6.0 | 1.6129 | 1.6145 |
| 41 | 57.587 | -20 4 | 57.620 | -0.0332 |  1.9 | 1.5993 | 1.5984 |
| 42 | 58.316 |  24 0 | 58.379 | -0.0632 |  1.8 | 1.5810 | 1.5795 |
| 43 | 58.601 |  01 4 | 58.631 | -0.0304 |  4.0 | 1.5740 | 1.5733 |
| 44 | 59.099 | -33 2 | 59.069 |  0.0300 | 11.6 | 1.5619 | 1.5626 |
| 45 | 61.770 |  22 3 | 61.741 |  0.0293 |  9.0 | 1.5006 | 1.5013 |
| 46 | 62.699 | -2 4 2 | 62.710 | -0.0104 | 2.0 | 1.4806 | 1.4804 |
| 47 | 63.212 |  0 2 4 | 63.193 |  0.0195 | 1.5 | 1.4698 | 1.4702 |
| 48 | 64.534 | -3 1 4 | 64.553 | -0.0181 | 2.4 | 1.4429 | 1.4425 |
| 49 | 65.701  |  4 2 1 | 65.701 | -0.0003 | 1.2 | 1.4200 | 1.4200 |