**Table. II:** Refined parameters for Sr2Mn1-xNixTeO6 at room temperature from XRPD data.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Compositions | x = 0 | x = 0.25 **[PW]** | x = 0.5 **[PW]** | x = 0.75 **[PW]** | x = 1 |
| **Wavelength (Å)**  **2θ step scan increment (°)**  **2θ range (°)**  **Program**  **Zero point (2θ°)**  **Pseudo-Voigt function**  **PV = η L + (1 − η) G**  **No. of refined parameters**  **Crystal system**  **Space group**  **a (Å)**  **b (Å)**  **c (Å)**  **β (°)**  **V (Å3)**  **Z**  **Atom number**  **Rp**  **Rwp**  **Rexp**  **RB**  **RF**  **χ2** | kα1 = 1.54056  0.010  10 – 100  FullProf  -0.23773  0.50628  31  Monoclinic  *P*21/*n*  5.7009(1)  5.6770 (1)  8.0334 (1)  90.085 (1)  259.994(10)  2  4  8.0  14.7  5.1  2.40  4.20  2.10 | kα1= 1.54056  0.010  10 – 100  FullProf  -0.23793  0.46154  29  Monoclinic  *P*21/*n*  5.6542(1)  5.6172(1)  7,9979(1)  90.089(2)  254.023(10)  2  10  7.43  10.2  7.06  6.30  5.90  2.09 | kα1= 1.54056  0.010  10 – 100  FullProf  -0.03383  0.55141  30  Monoclinic  *P*21/*n*  5.6476(1)  5.6290(1)  7,9514(1)  90.047(2)  252.781(10)  2  10  6.97  9.40  7.96  5.40  5.95  1.39 | kα1= 1.54056  0.010  10 – 100  FullProf  0.05022  0.58645  63  Monoclinic  *I*2/*m*  5.6285(1)  5.6250(1)  7.9430(1)  90.030(2)  251.953(10)  2  9  7.09  9.43  7.71  4.24  3.56  1.50 | kα1 = 1.54056  0.010  10 – 100  FullProf  -0.02843  0.30897  15  Monoclinic  *I*2/*m*  5.6166(1)  5.5807(1)  7,8797(1)  90.048(2)  246.97(10)  2  4  9.2  13.1  5.2  4.00  5.00  2.1 |

[PW]: Present work