$$F_1[\{-1, i\_, j\_\}] = -\frac{1}{2} - \frac{g_{1ii}\, g_{2ji}}{T_2} - \frac{(T_1 - 1)\, g_{1ji}\, g_{2ji}}{T_1\, (T_2 - 1)\, T_2} + g_{1ii}\, g_{2jj} + \frac{(T_1 - 1)\, g_{1ji}\, g_{2jj}}{T_1\, (T_2 - 1)} + g_{3ii} - \frac{(T_2 - 1)\, g_{2ji}\, g_{3ii}}{T_2} - 2\, g_{2jj}\, g_{3ii} -$$

$$\frac{(T_3 - 1)\, g_{3ji}}{T_1\, (T_2 - 1)} + \frac{(T_3 - 1)\, g_{1ii}\, g_{3ji}}{T_1\, (T_2 - 1)\, T_2} - \frac{(T_1 - 1)\, (T_2 + 1)\, (T_3 - 1)\, g_{1ji}\, g_{3ji}}{T_1^2\, (T_2 - 1)\, T_2} - \frac{(T_3 - 1)\, g_{2ij}\, g_{3ji}}{T_1\, (T_2 - 1)} + \frac{(T_3 - 1)\, g_{2ji}\, g_{3ji}}{T_3} + \frac{(2\, T_2 - 1)\, (T_3 - 1)\, g_{2jj}\, g_{3ji}}{T_1\, (T_2 - 1)\, T_2} -$$

$$g_{1ii}\, g_{3jj} - \frac{(T_1 - 1)\, g_{1ji}\, g_{3jj}}{T_1\, (T_2 - 1)} + g_{2ii}\, g_{3jj} + \frac{g_{2ji}\, g_{3jj}}{T_2};$$