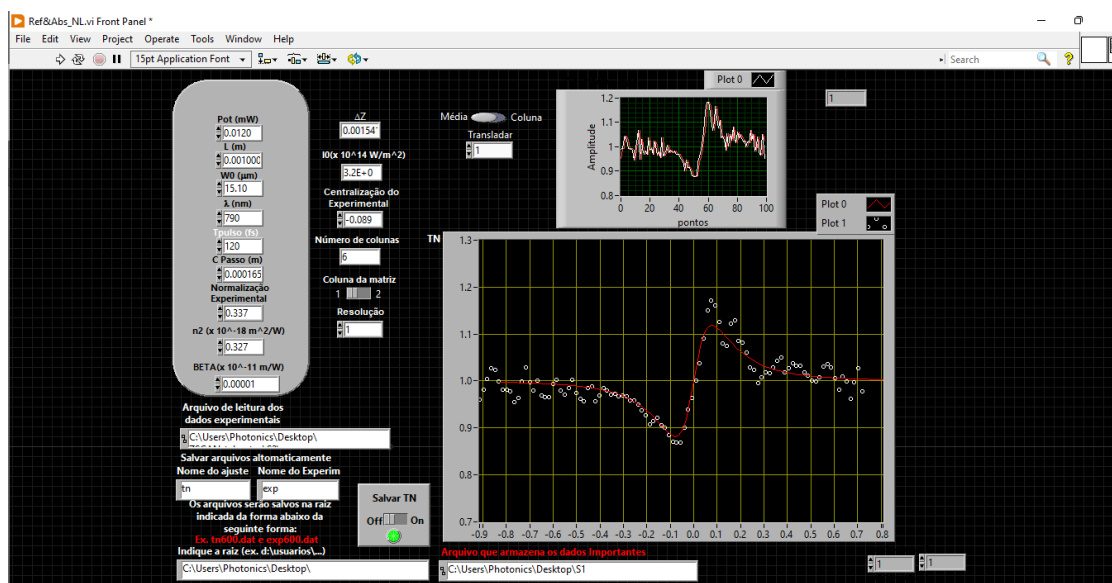


Supplementary data:

- Labview Program for n_2 analysis



- Information about gaussian decomposition of Raman and FTIR spectrum

Raman Spectrum

Mode	$\nu_c (cm^{-1})$	$A_{TBNO}/A_{TBNO-Norm}$	$A_{TBN1}/A_{TBN1-Norm}$	$A_{TBN2}/A_{TBN2-Norm}$
Te-O-B stretching	245-271	6,526.6/0.003	18,574.7/0.007	16,779.0/0.006
Symmetrical stretching and bending vibrations of Te-O-Te bonds that share TeO ₄ tbp and TeO ₃ tp	453-455	483,944.6/0.19	584,457.7/0.21	589,900.9/0.22
Te-O-Nb and Te-O-Te bridges	504-508	63,100.1/0.02	50,426.1/0.02	54,422.4/0.02
1º) Asymmetric and stretching vibrations Te-O bonds of TeO ₄ units. 2º) Stretching vibrations of the Nb-O bond in Nb-O-Nb bridges	663-665	1,187,997.9/0.46	1,247,985.0/0.46	1,290,677.6/0.47
Stretching vibrations of Te-O bond in TeO ₃ tp units	768-771	736,469.8/0.29	687,410.1/0.25	735,951.1/0.27
Bonding and vibrational				

modes of Nb-O-Nb and the symmetrical stretching of Nb-O, found in the NbO ₆ octaedra	885-895	86,002.2/0.03	132,954.8/0.05	76,272.3/0.03
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Total Area:

TBNO : 2,564,041.0

TBN1 : 2,759,003.3

TBN2 : 2,721,808.4

FTIR spectrum

Modo	$\nu_c (cm^{-1})$	A_{TBNO}/A_{TBNO_Norm}	A_{TBN1}/A_{TBN1_Norm}	A_{TBN2}/A_{TBN2_Norm}
Vibrations of Te-O-Te of TeO ₄ units	583-589	16.4/0.04	17.2/0.04	27.2/0.07
- Symmetrical and stretching vibration in Te-O in tpb TeO ₄ units - Asymmetric stretching vibration of Te-O bonds in TeO ₃ tp units	658-661	144.0/0.37	149.7/0.31	111.0/0.30
TeO ₃ tp units	780-798	69.7/0.18	77.4/0.16	80.3/0.22
Stretching vibrations of B-O of BO ₄ units and Nb-O of NbO ₆ units	918-928	27.2/0.07	44.6/0.09	18.6/0.05
Vibration of non-bridging oxygen in the form of (BO ₄) unit	994-1014	14.7/0.04	13.3/0.03	15.6/0.04
Stretching vibrations of B-O of BO ₃ units	1222-1227	48.0/0.12	61.9/0.13	40.0/0.11
B-O- vibration in the BO ₃ units	1325-1333	69.7/0.18	95.0/0.20	65.9/0.18
Asymmetric bending relaxation of BO ₃ units	1415-1423	9.3/0.02	19.6/0.04	9.2/0.03

Total area

TBNO : 386.0

TBN1 : 478.7

TBN2 : 367.8