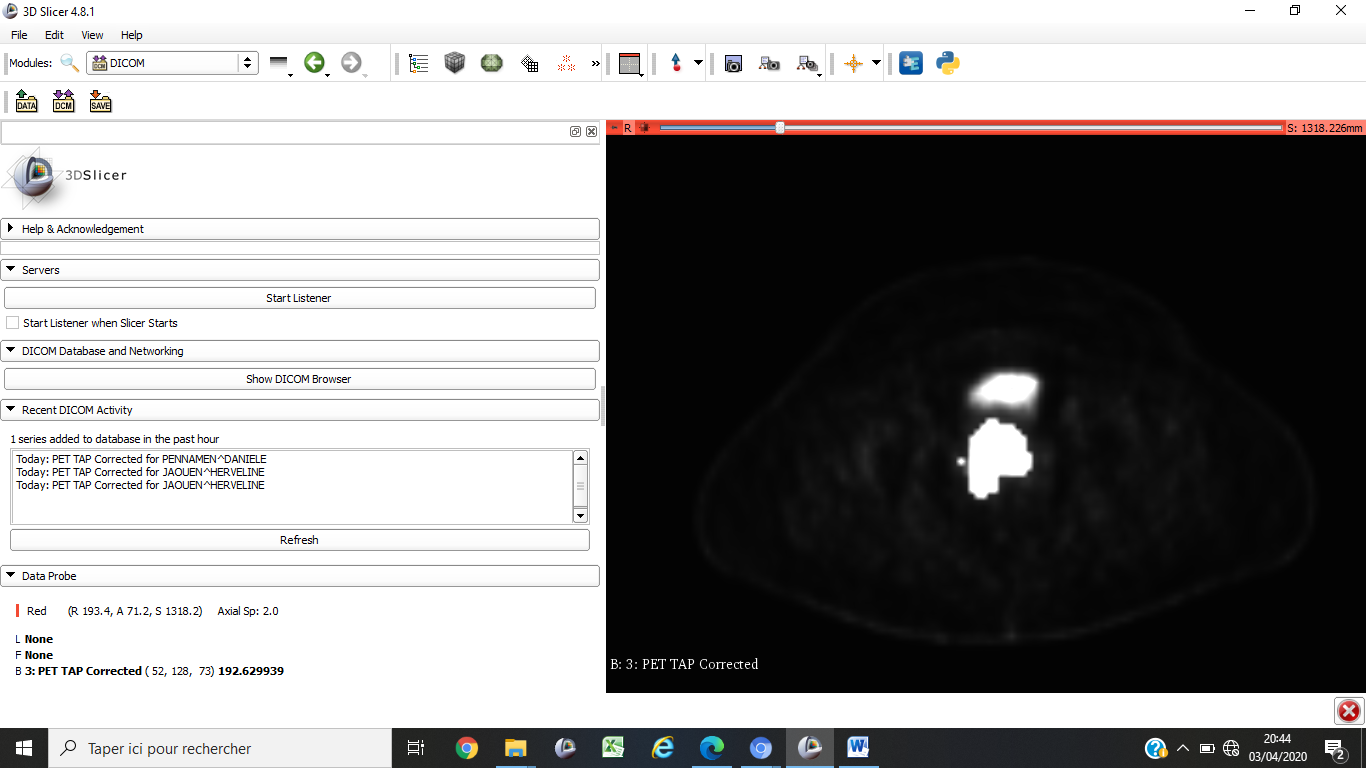
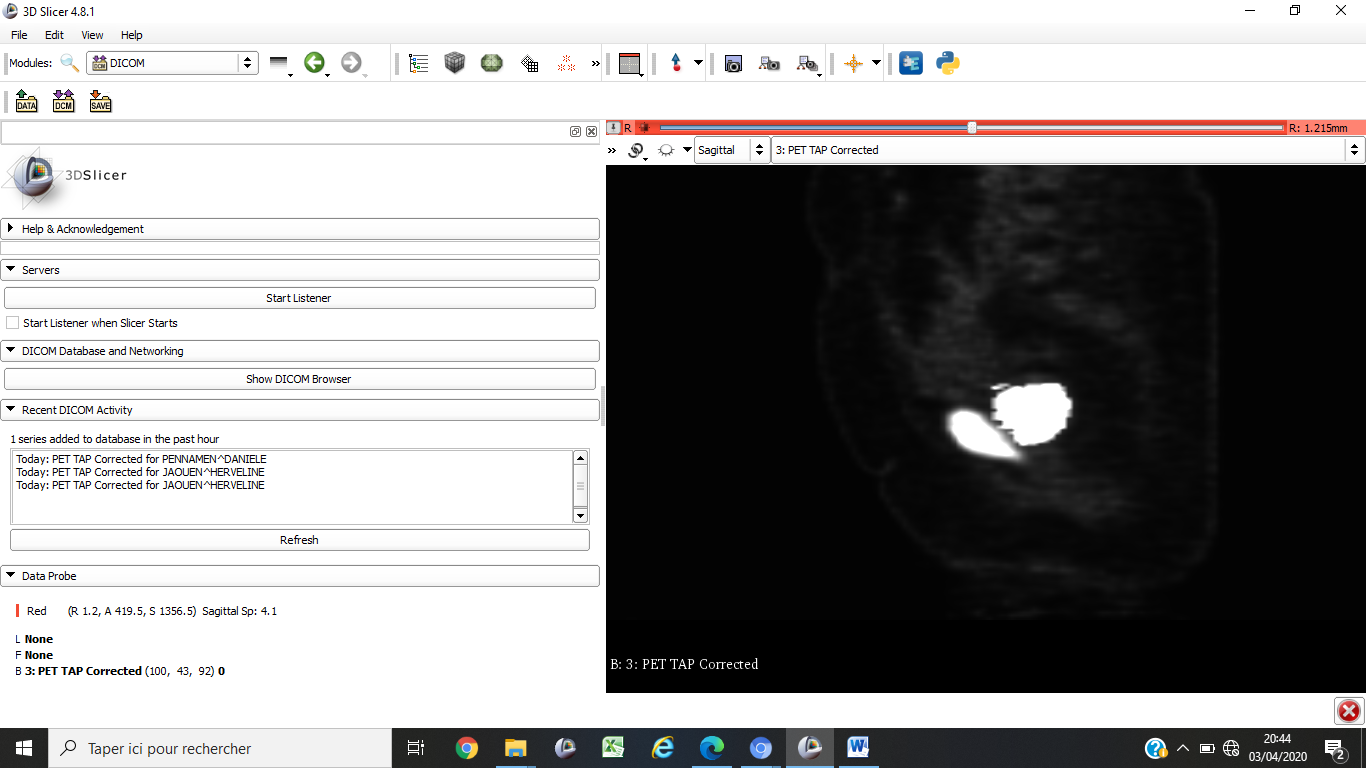
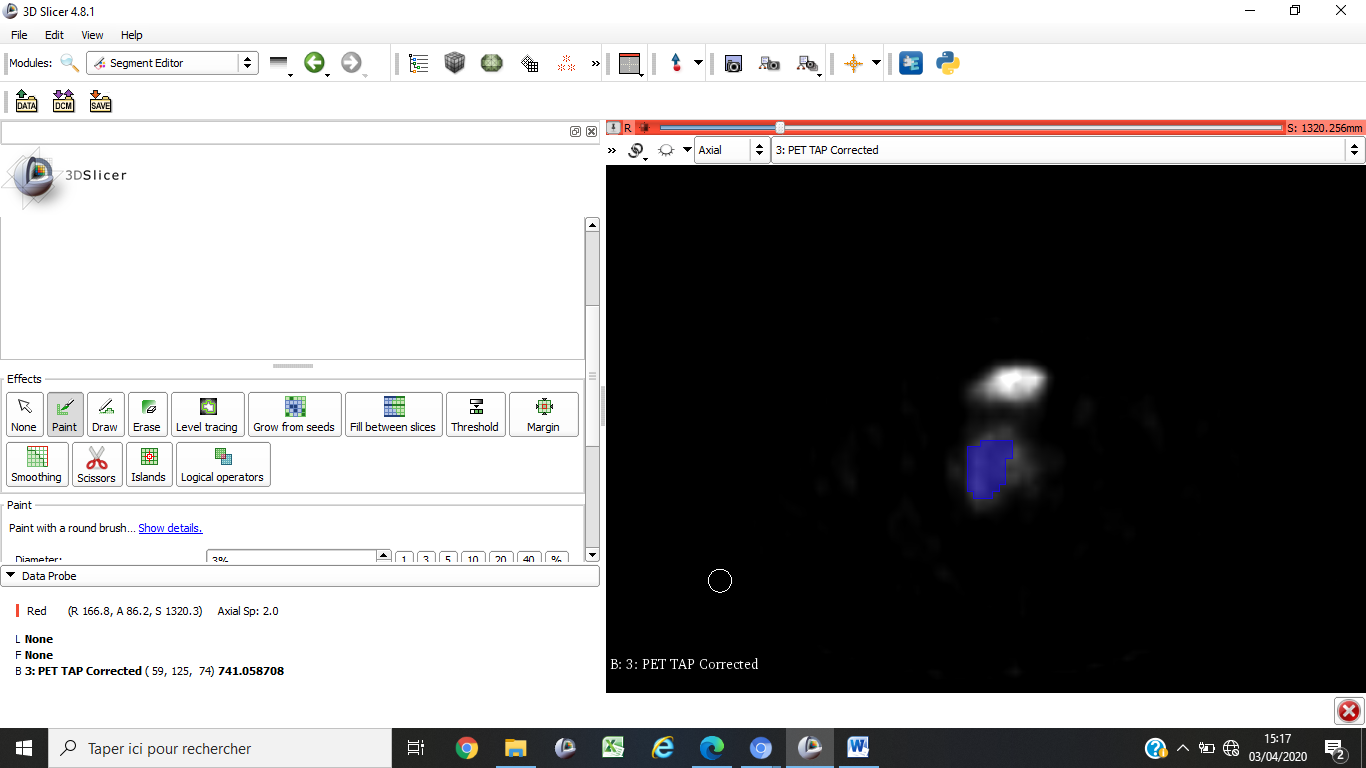
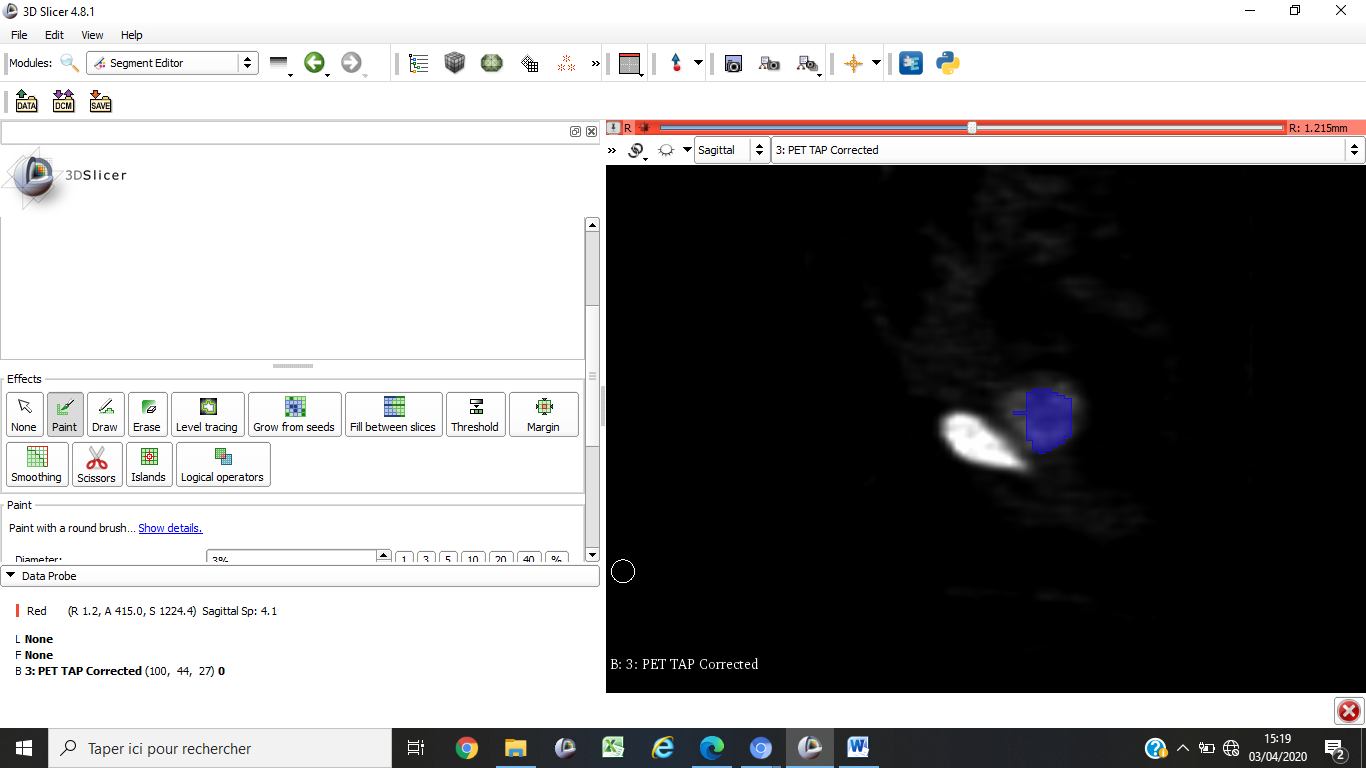
**Figure S1:** Examples of registration using the 3D Slicer TM Expert Automated Registration module in 4 different patients. The initial tumor volume (VT) in grey,initial high 18F-FDG uptake sub-volume (V1) in blue and relapse V2 in red. Sagittal view (left) and axial (right) (A) for this particular case, a manual correction of the registration due to a different bladder filling was necessary (Dice=0.73, OF=0.77, X=0.70, Y=0.77), (B) Case with V2 larger than V1 (Dice=0.62, OF=0.80, X=0.80, Y=0.50), (C) Case with small V1 and V2 (Dice=0.72, OF=0.82, X=0.64, Y=0.82), (D) Case with V2 larger than V1 (Dice=0.76, OF=0.90, X=0.90, Y=0.65)

A.



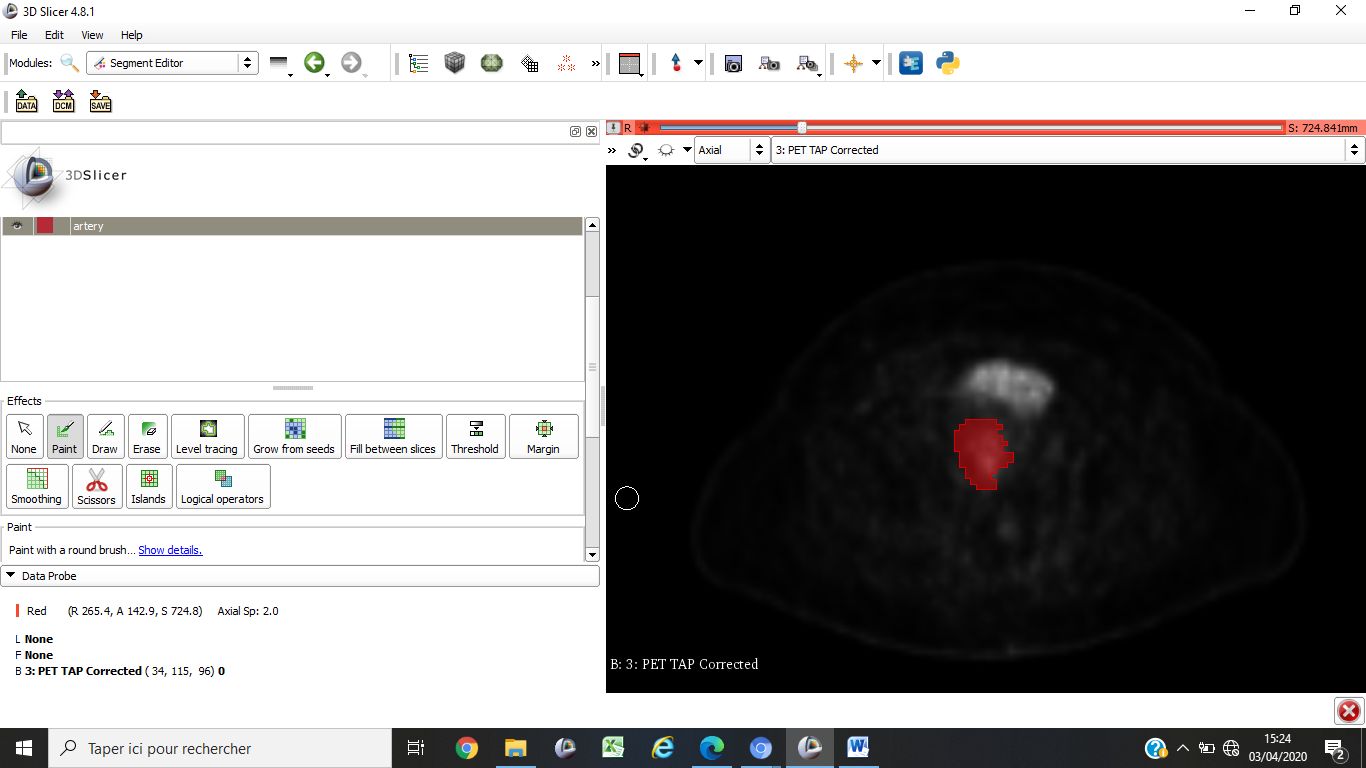
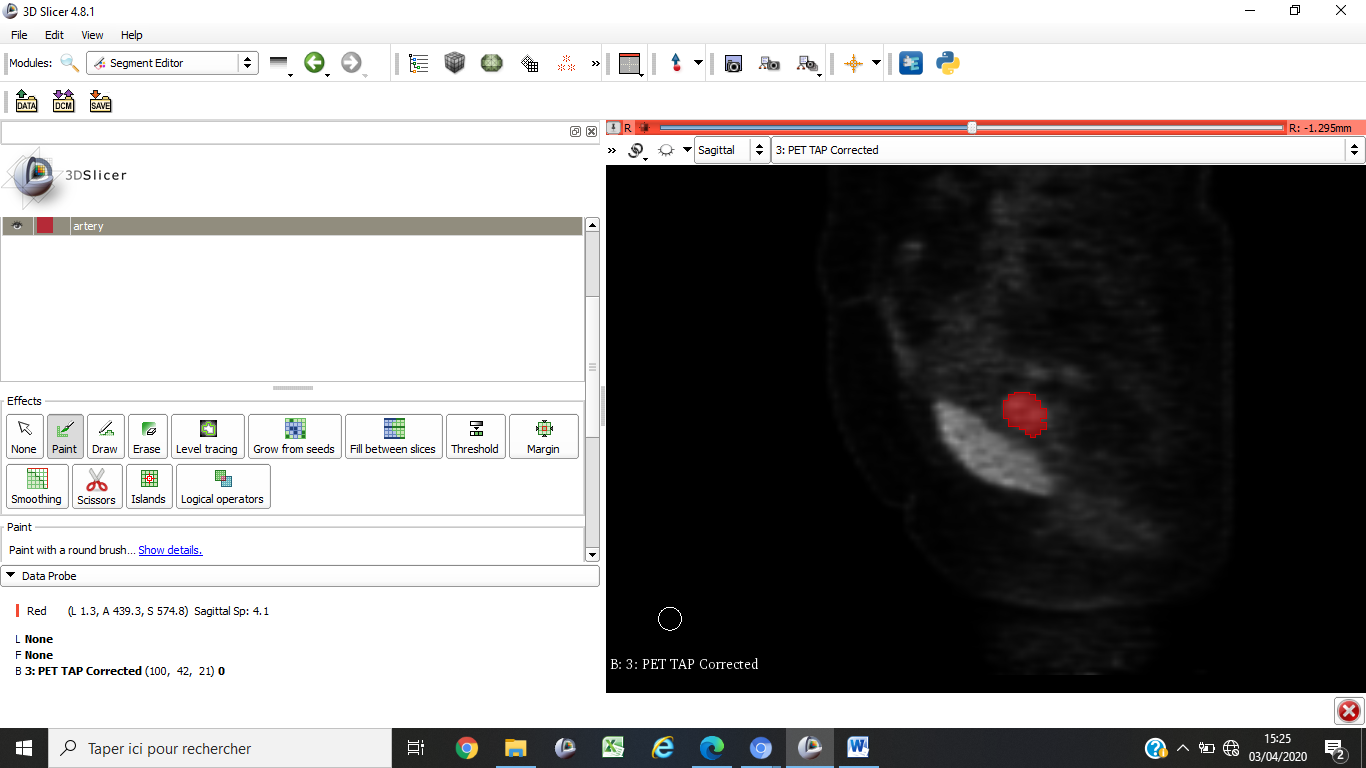
anterior

anterior



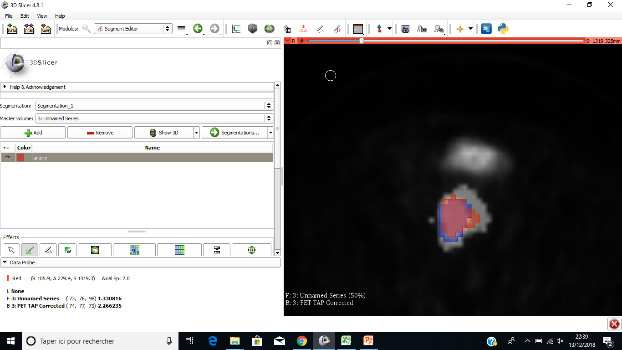
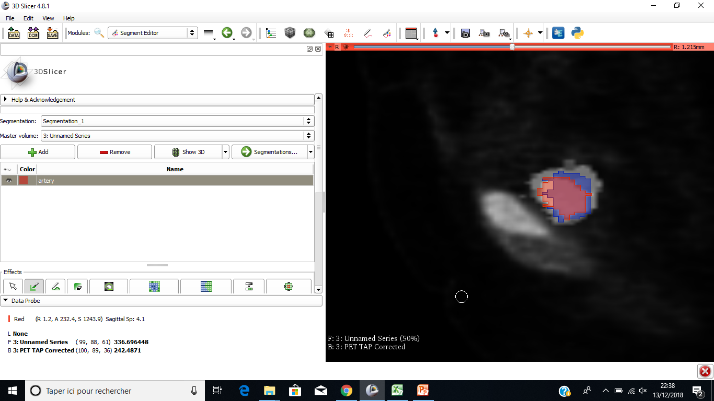
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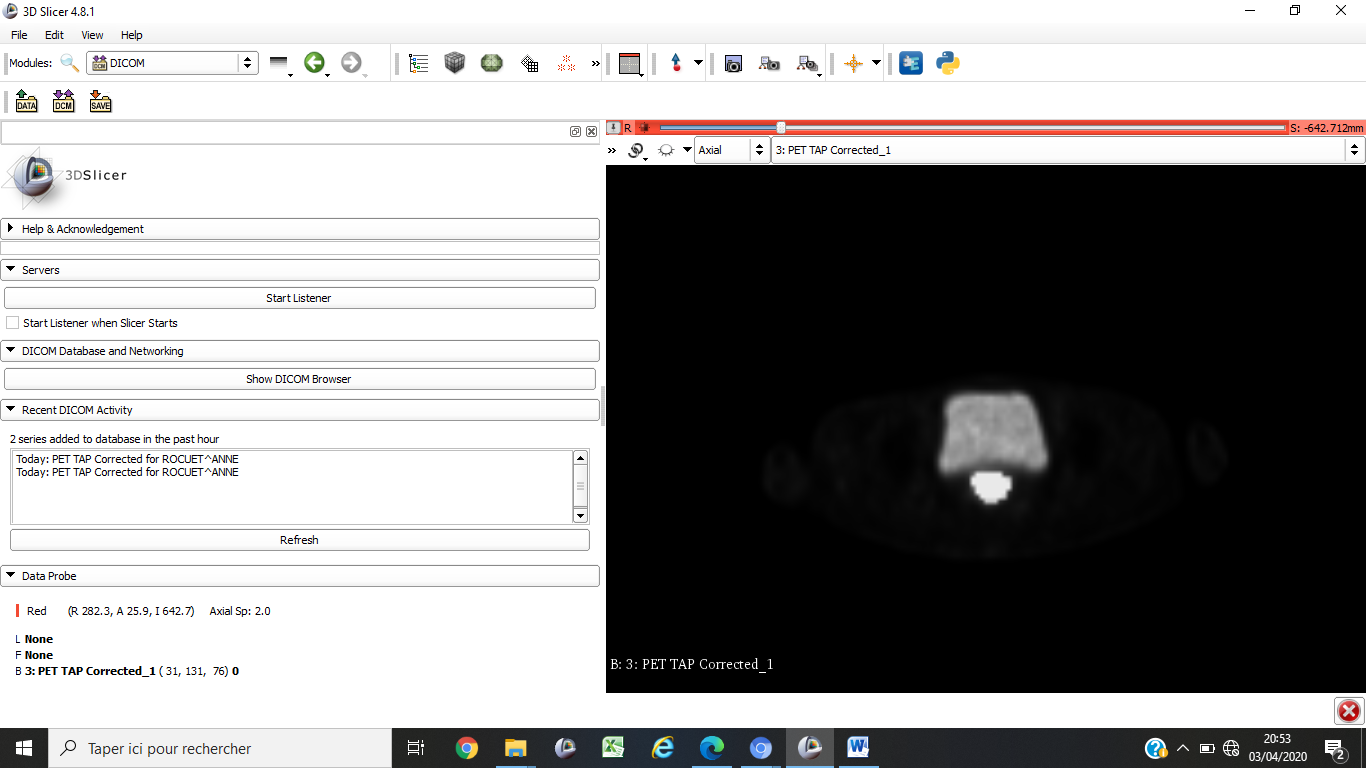
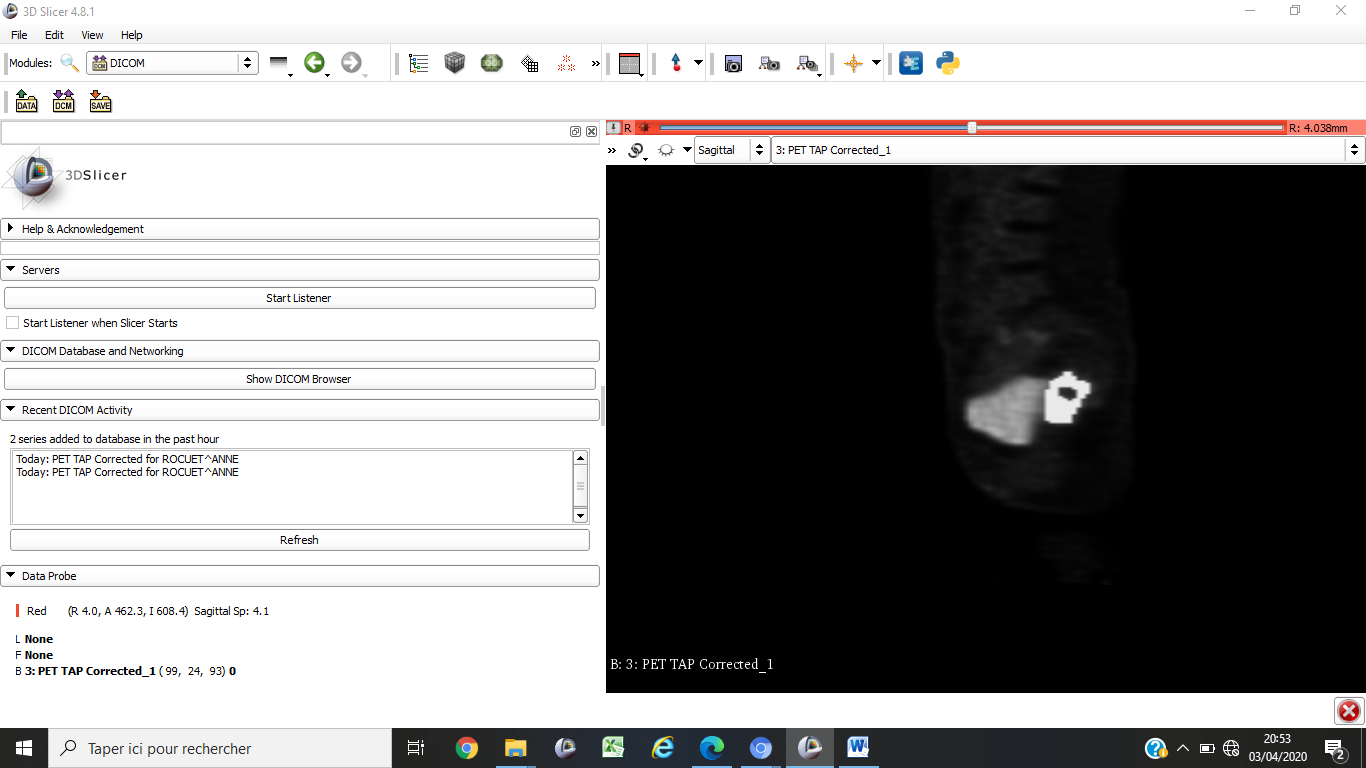
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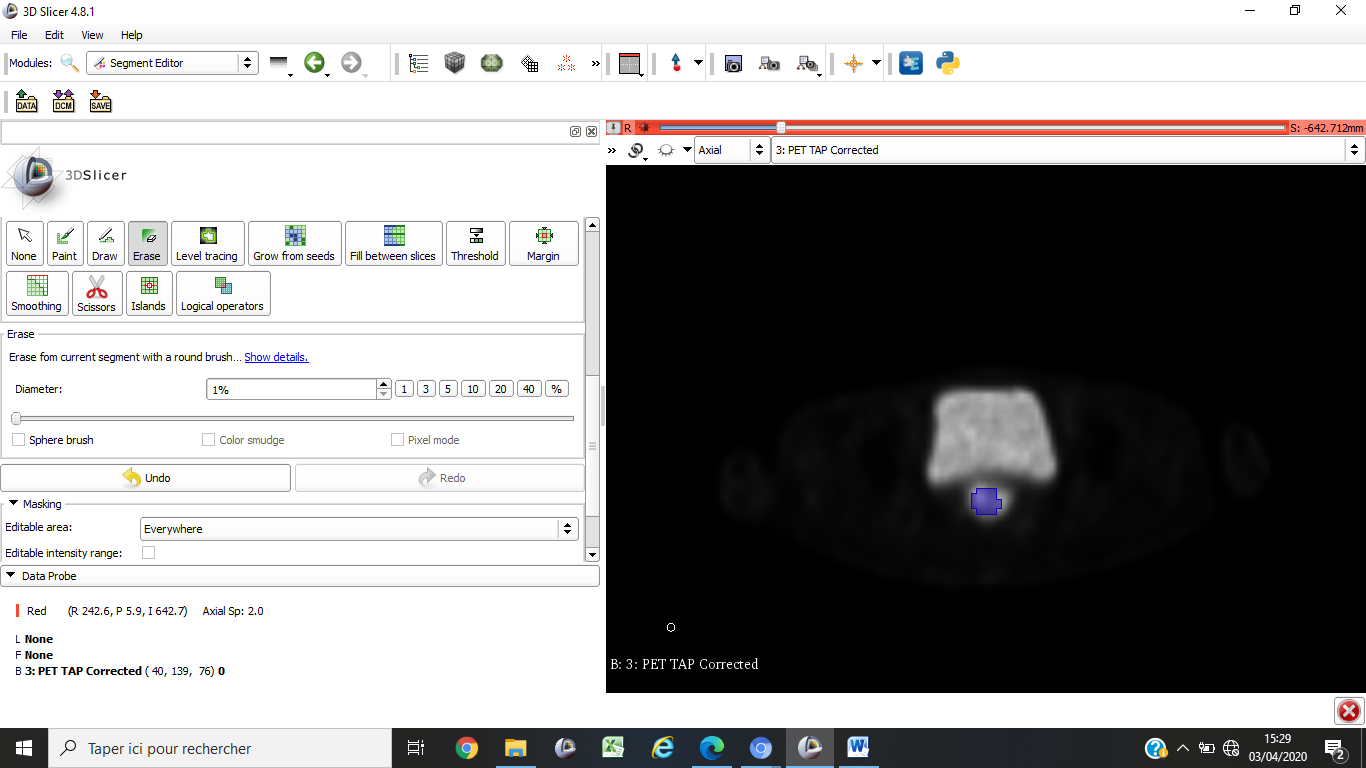
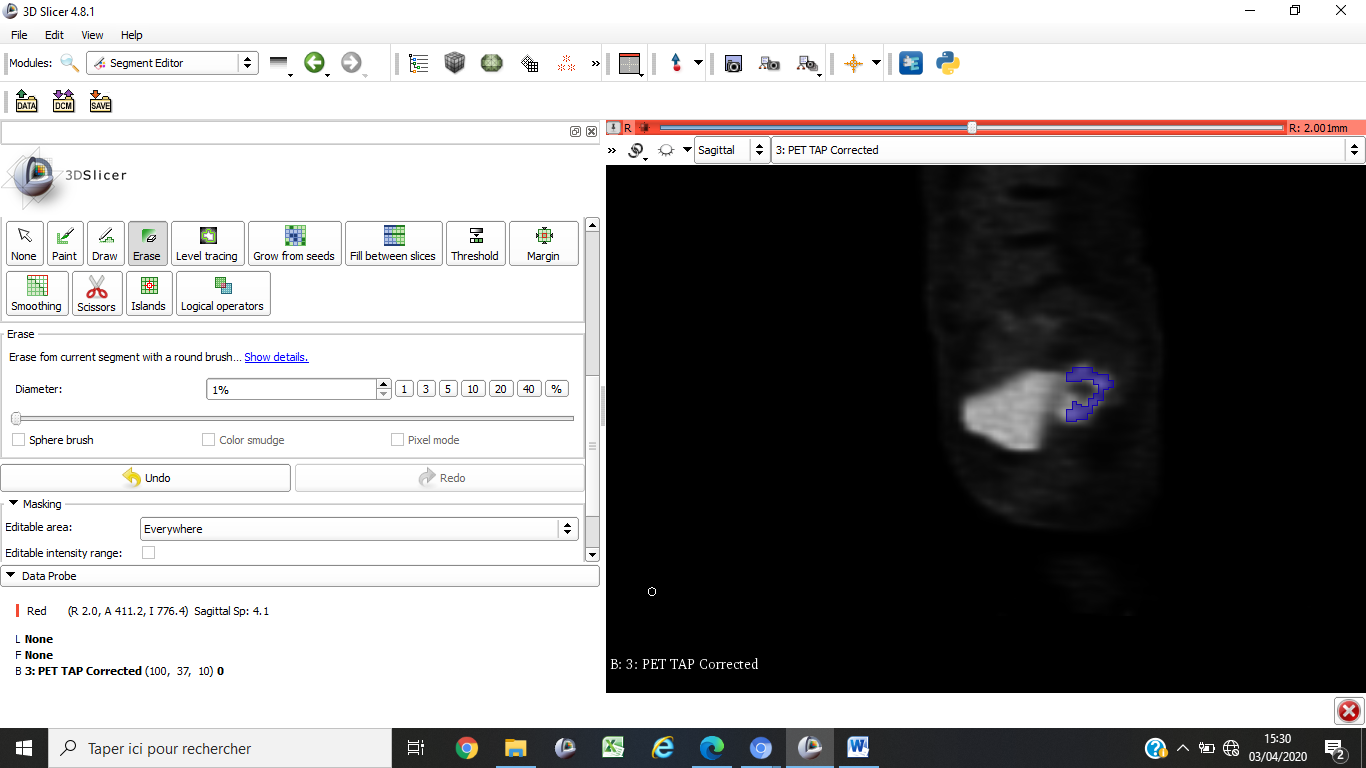
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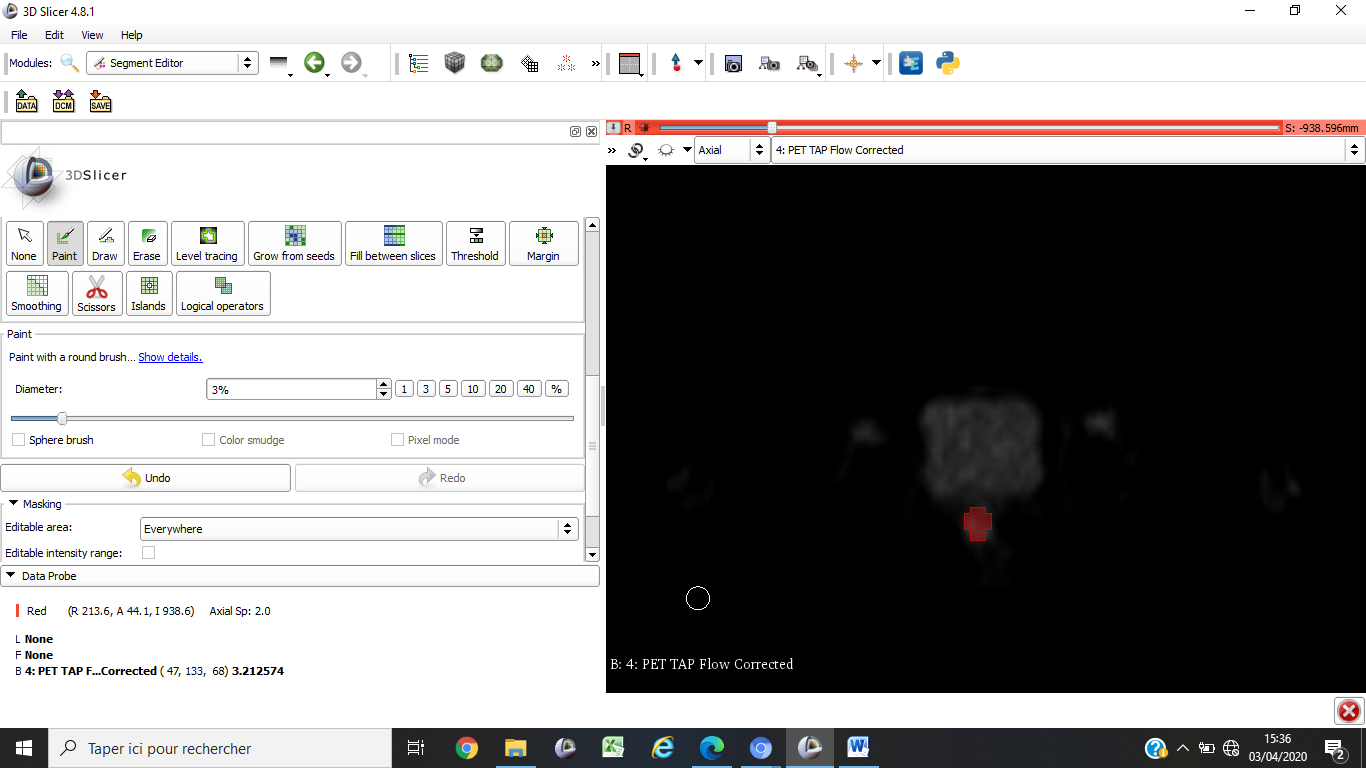
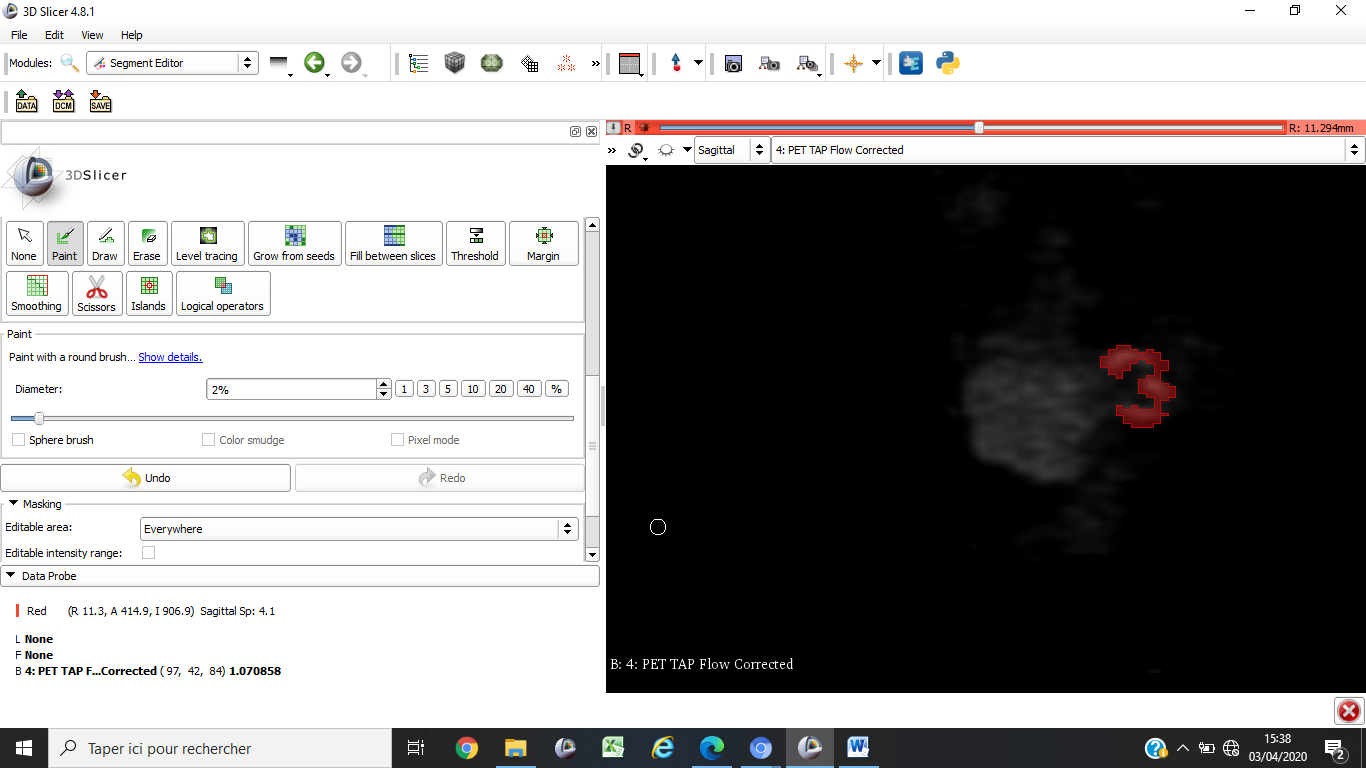
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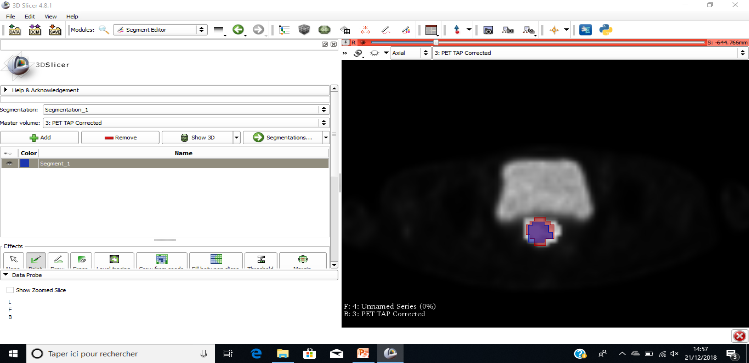
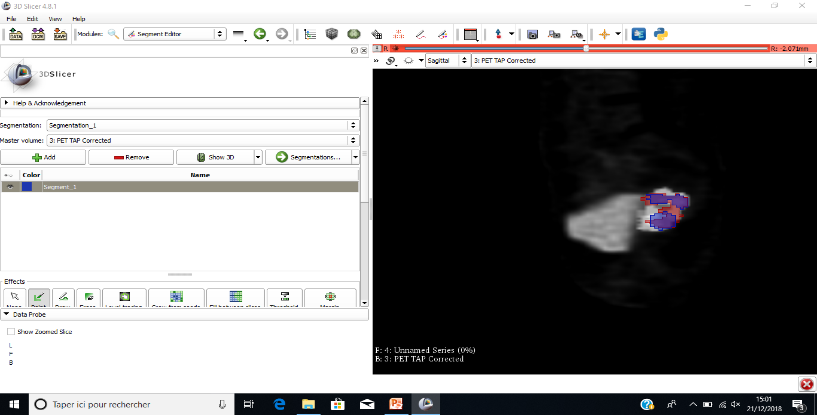
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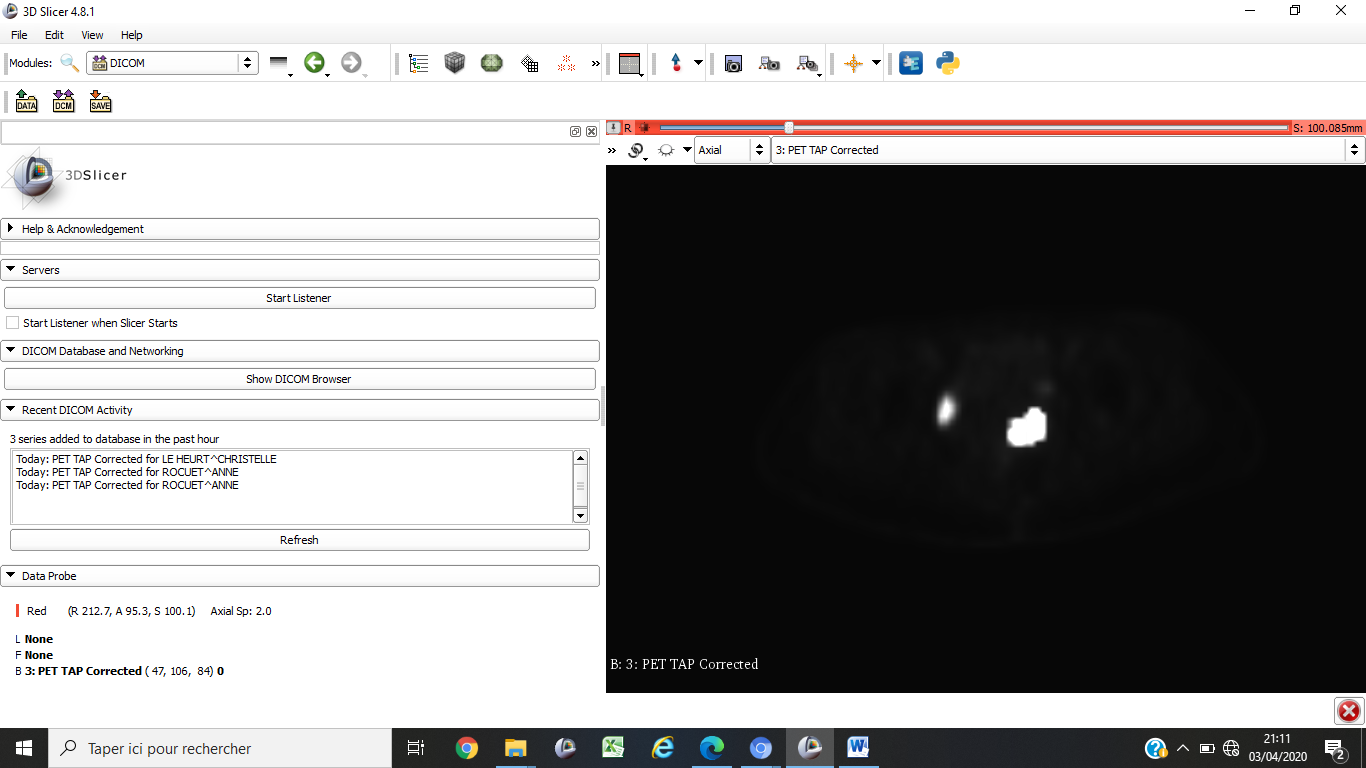
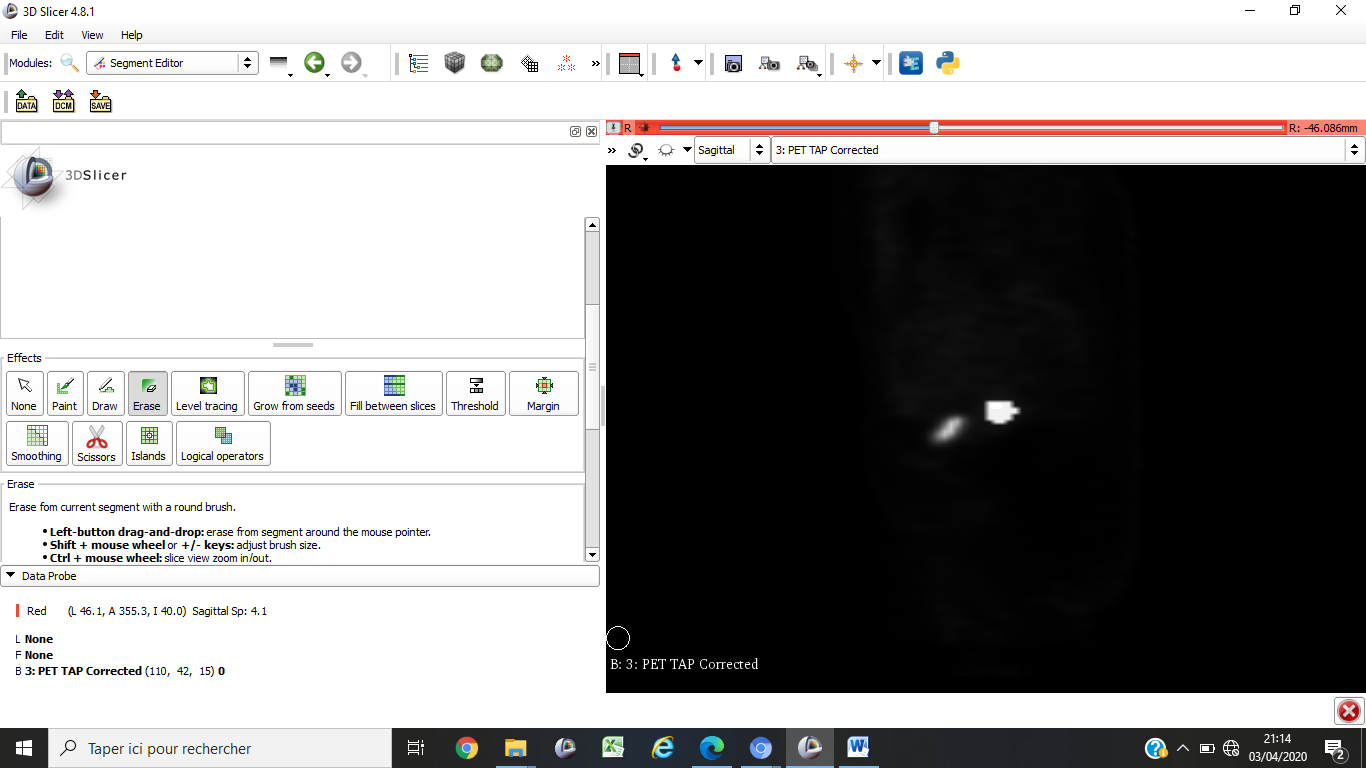
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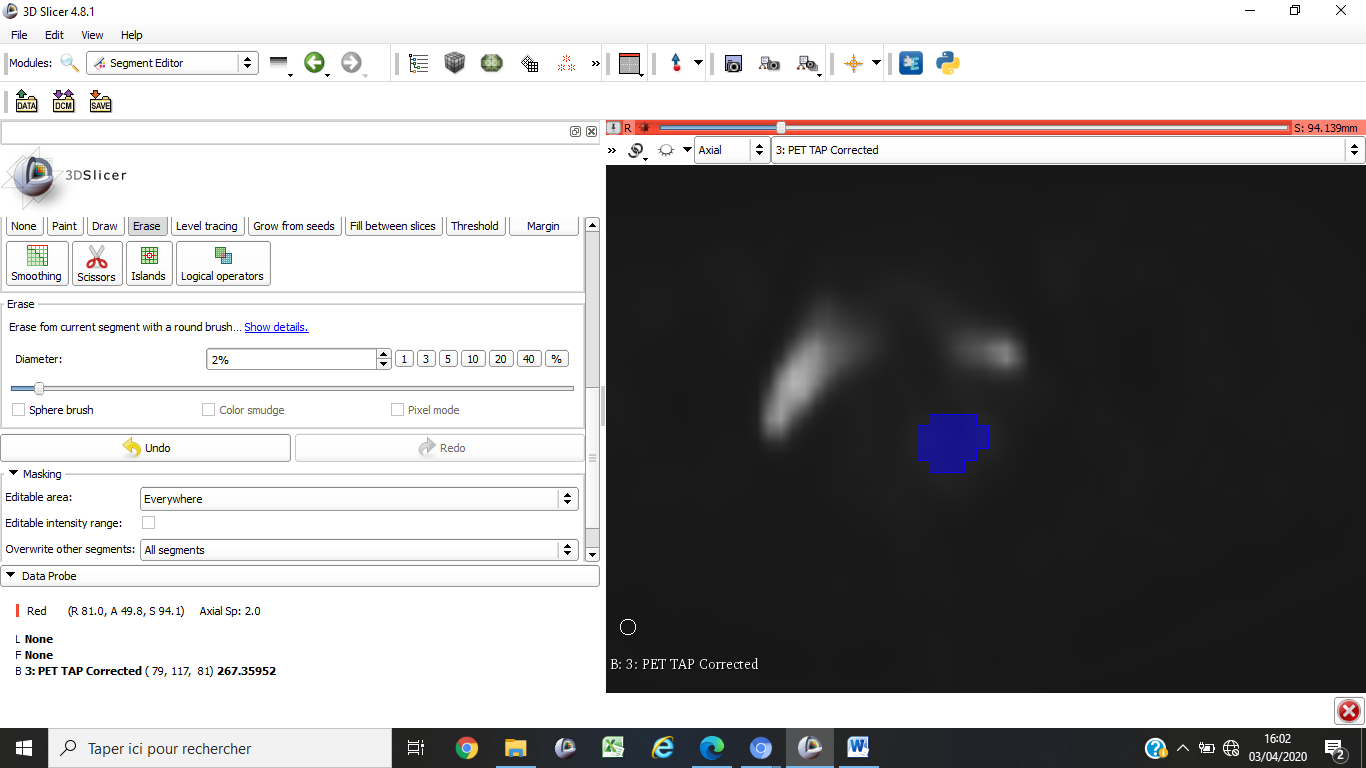
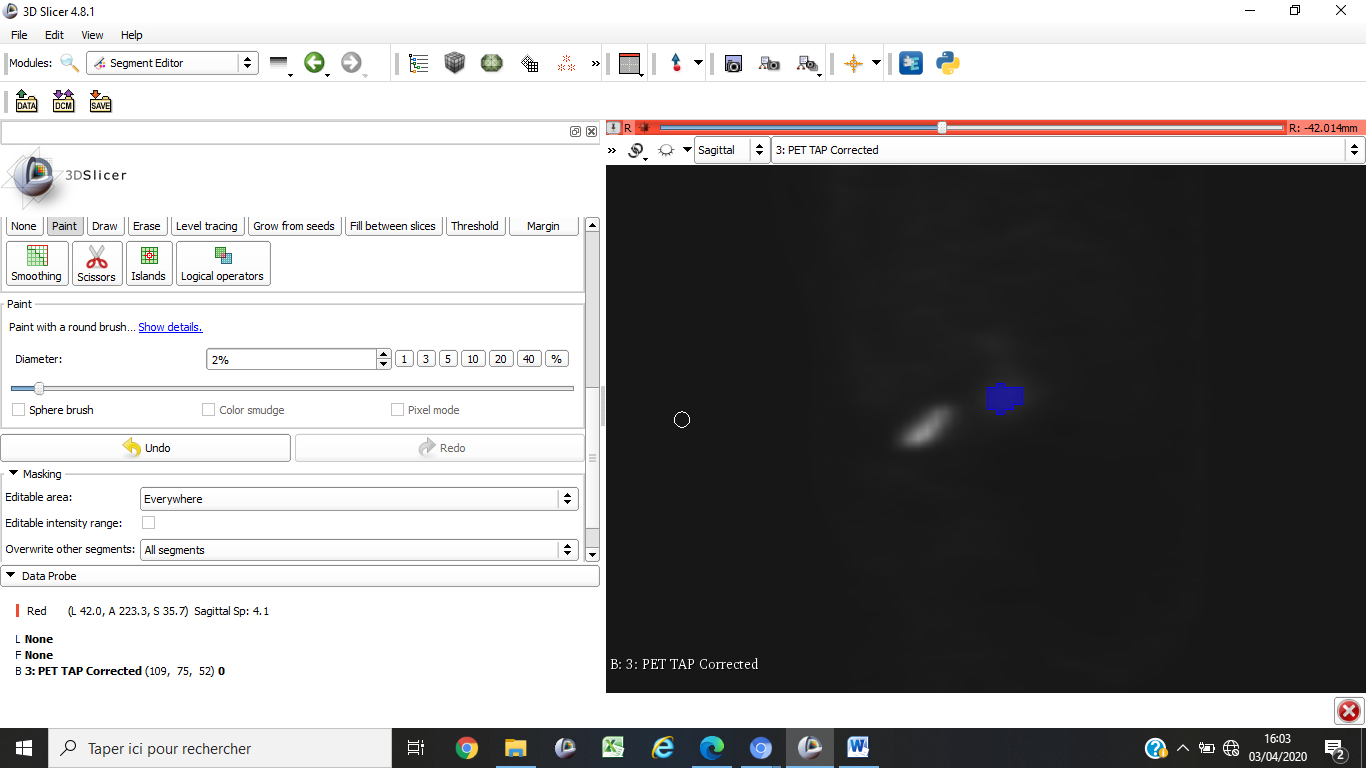
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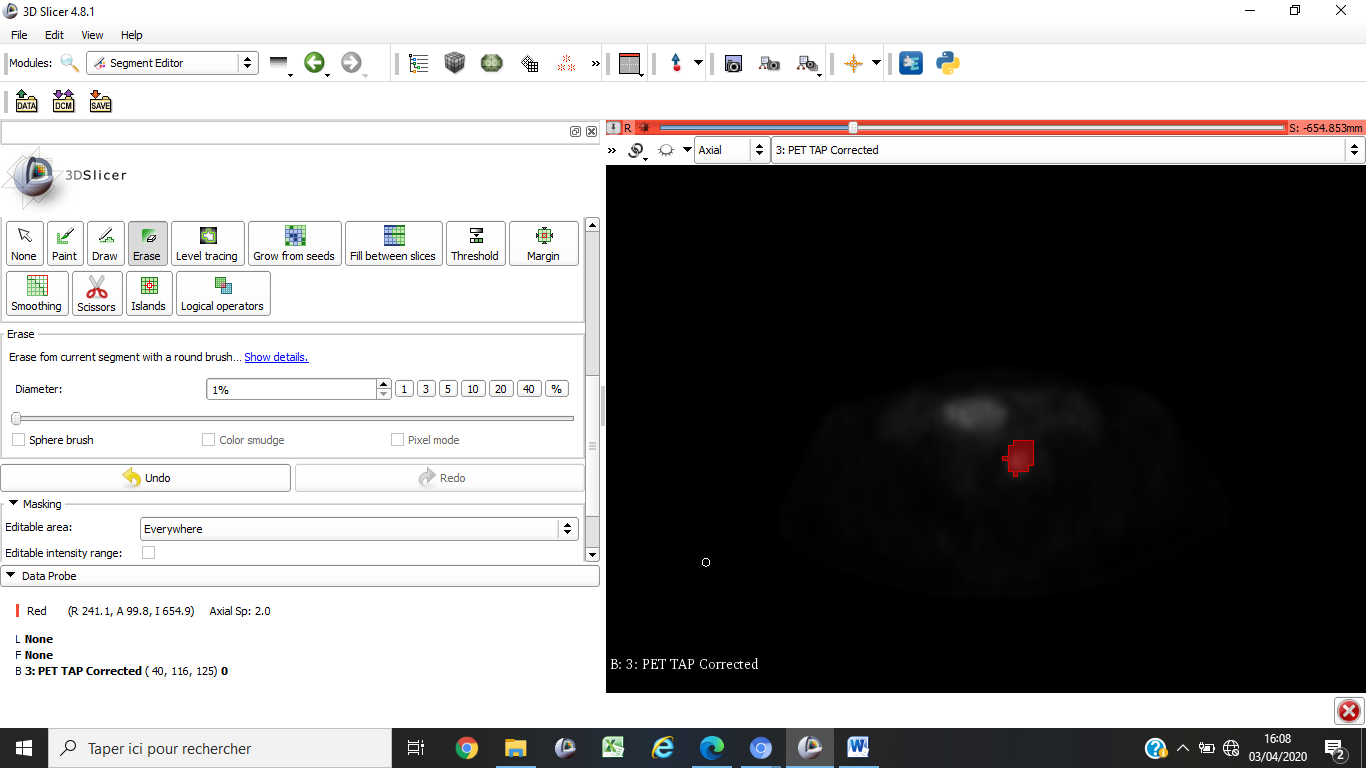
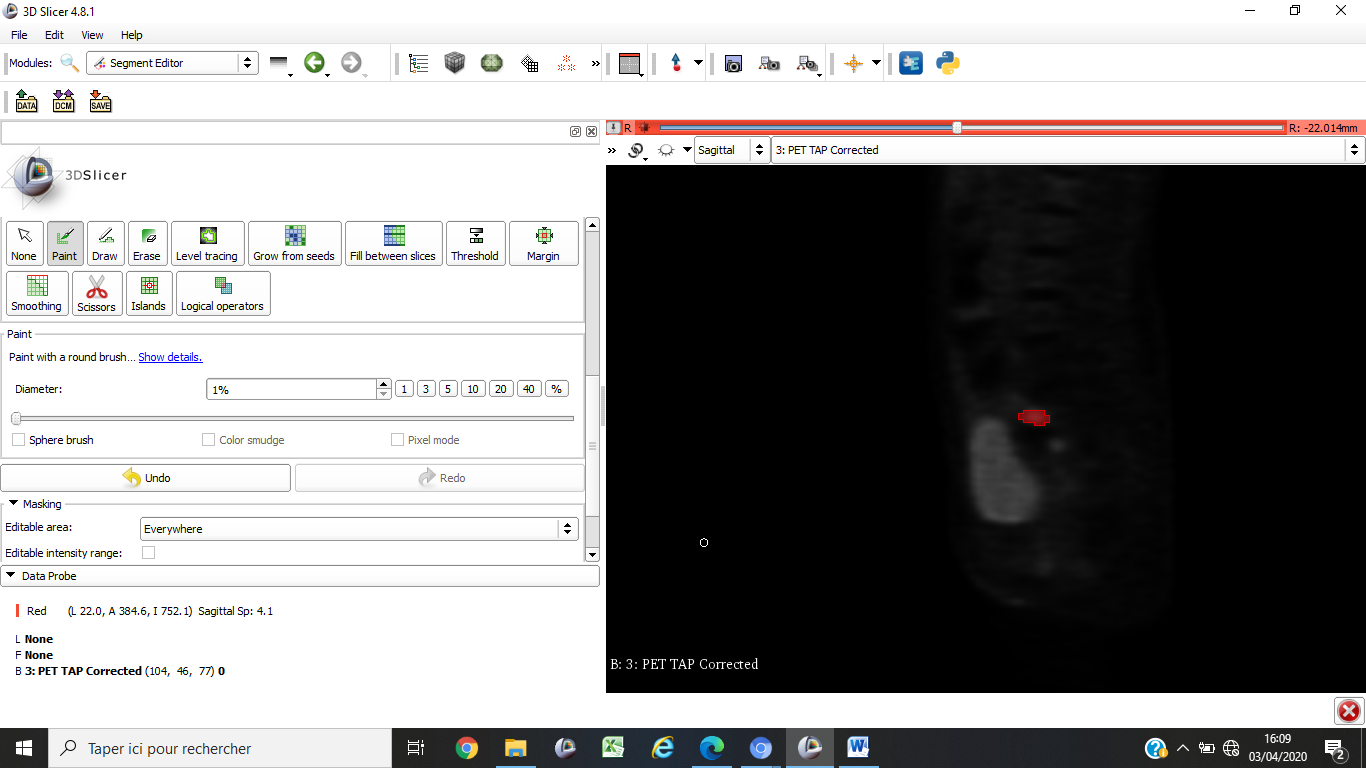
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anterior



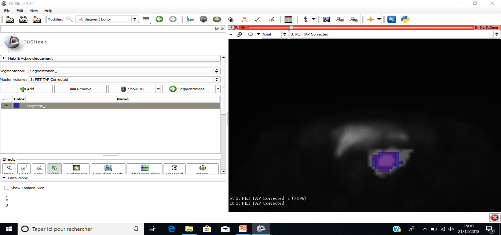
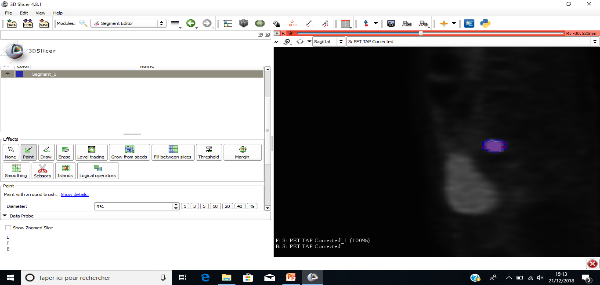
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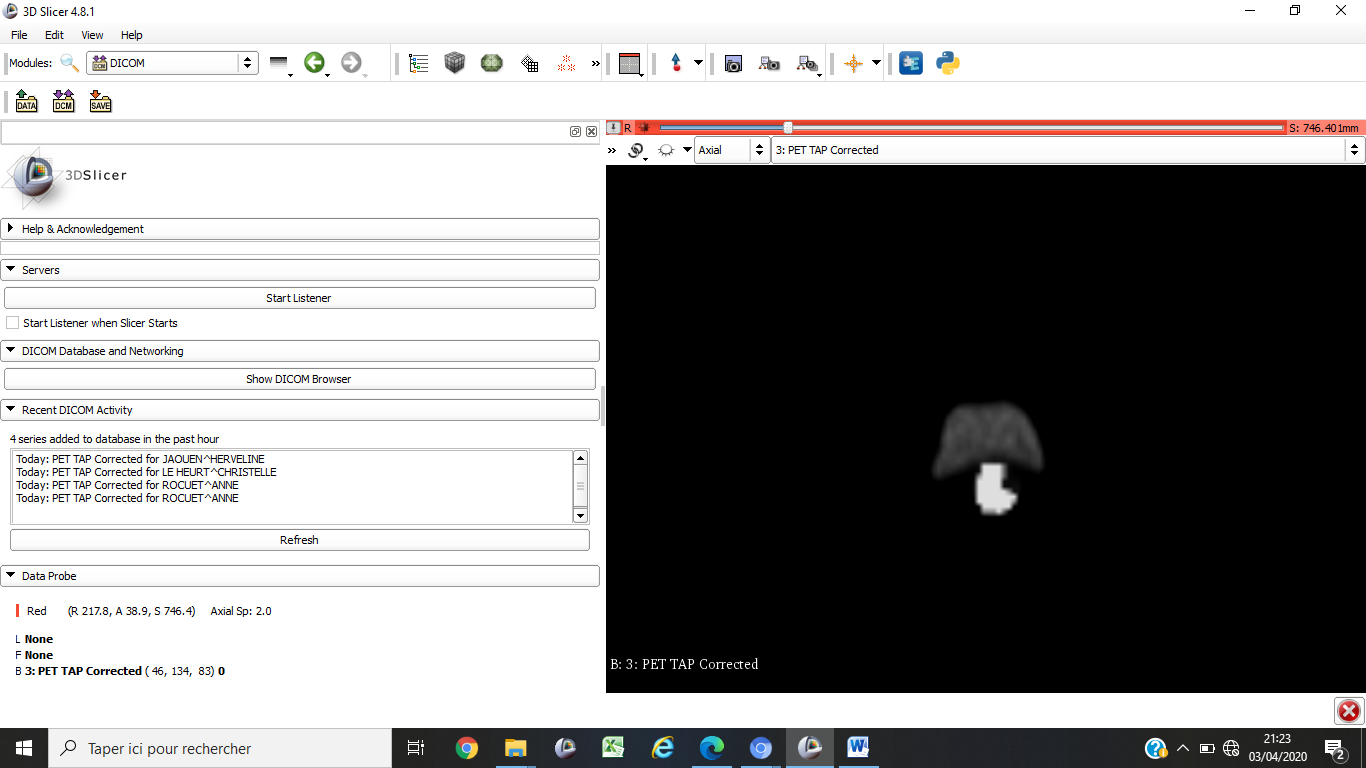
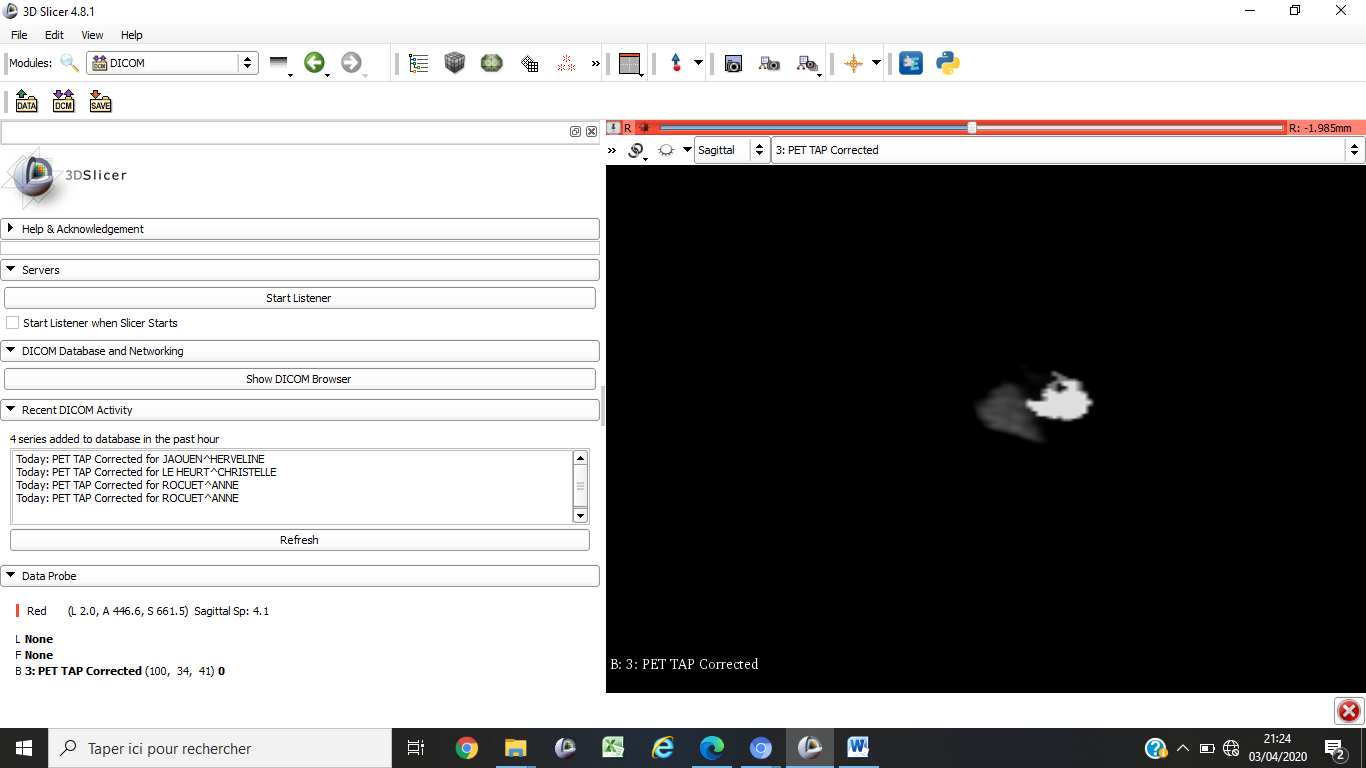
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anterior

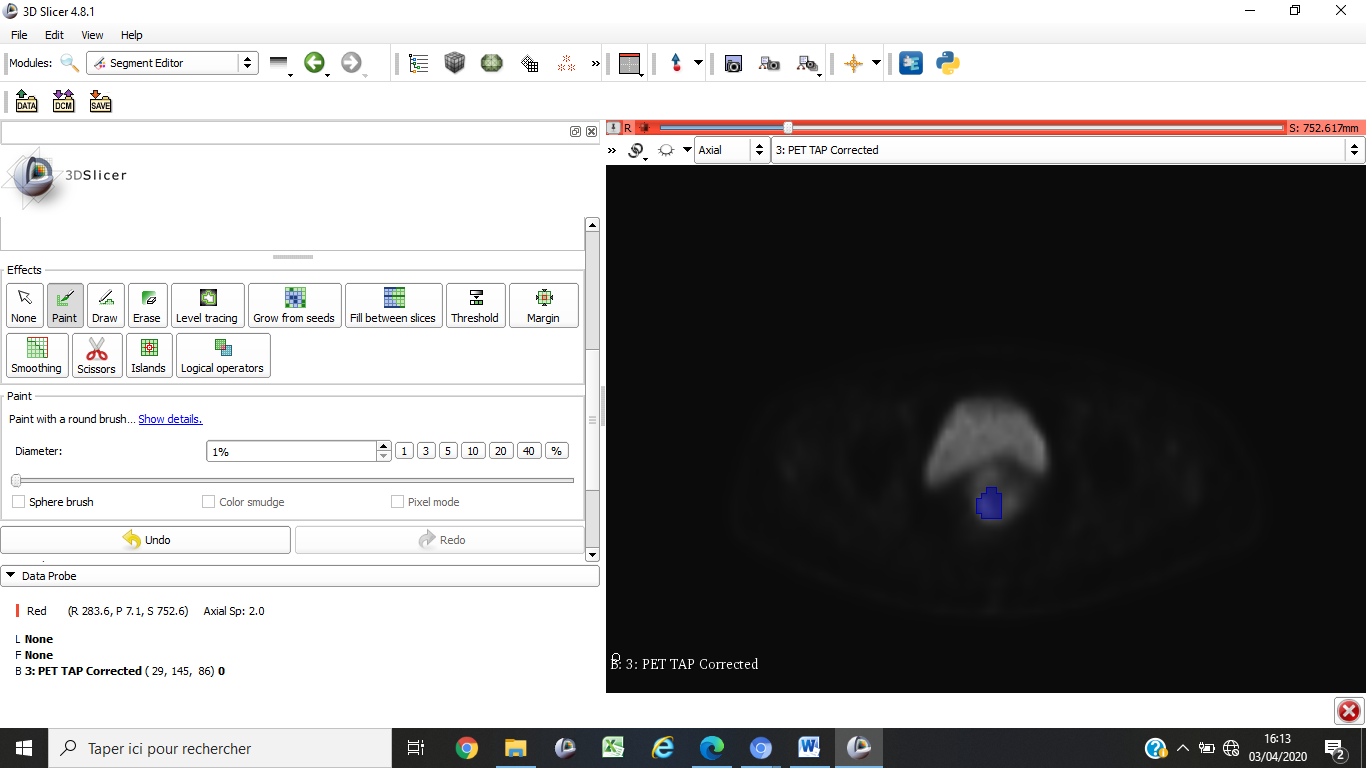
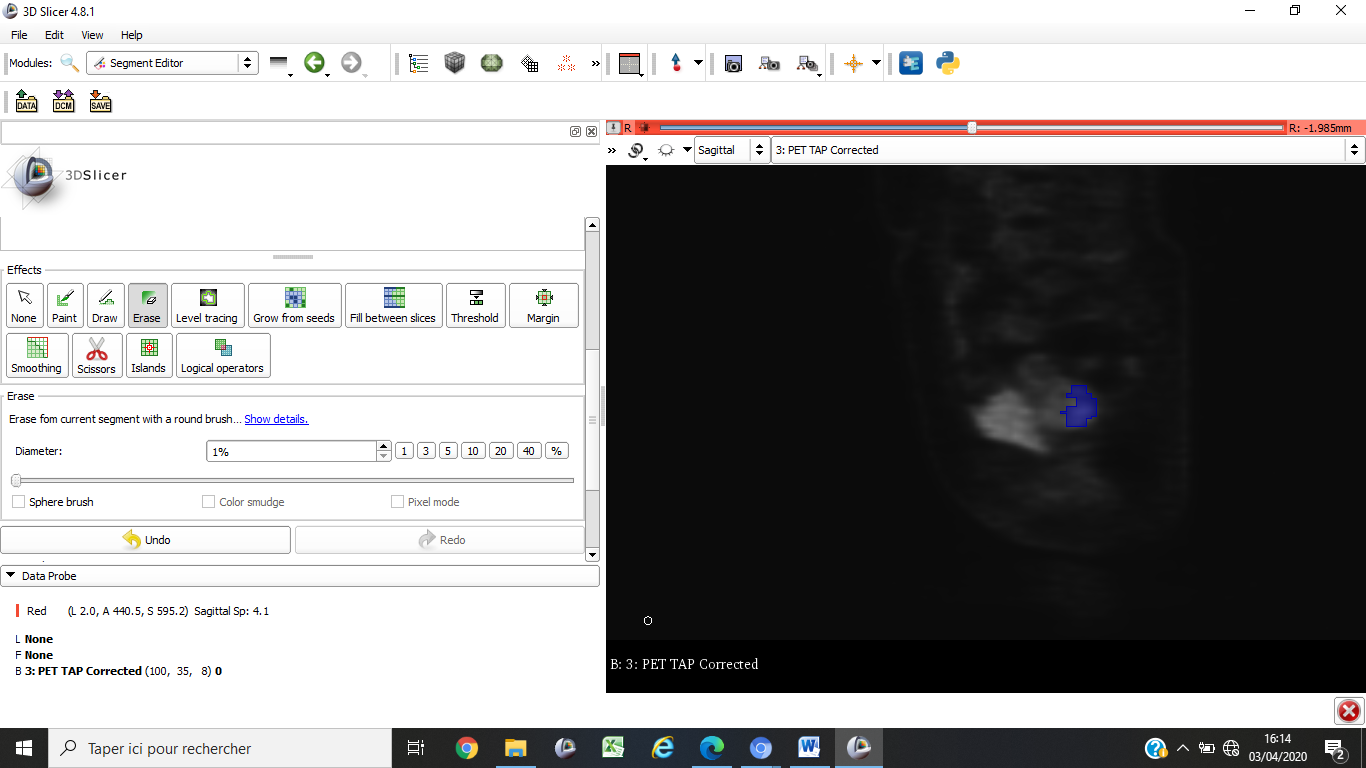
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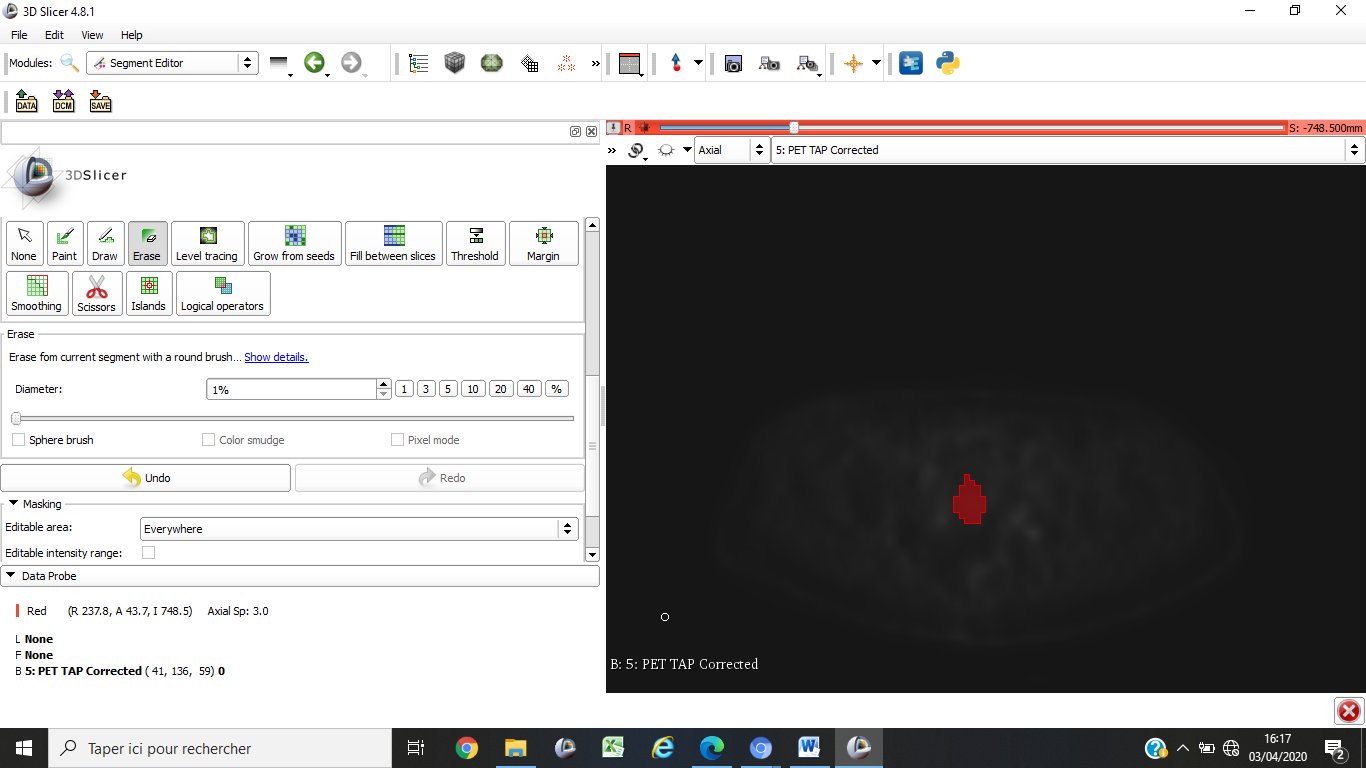
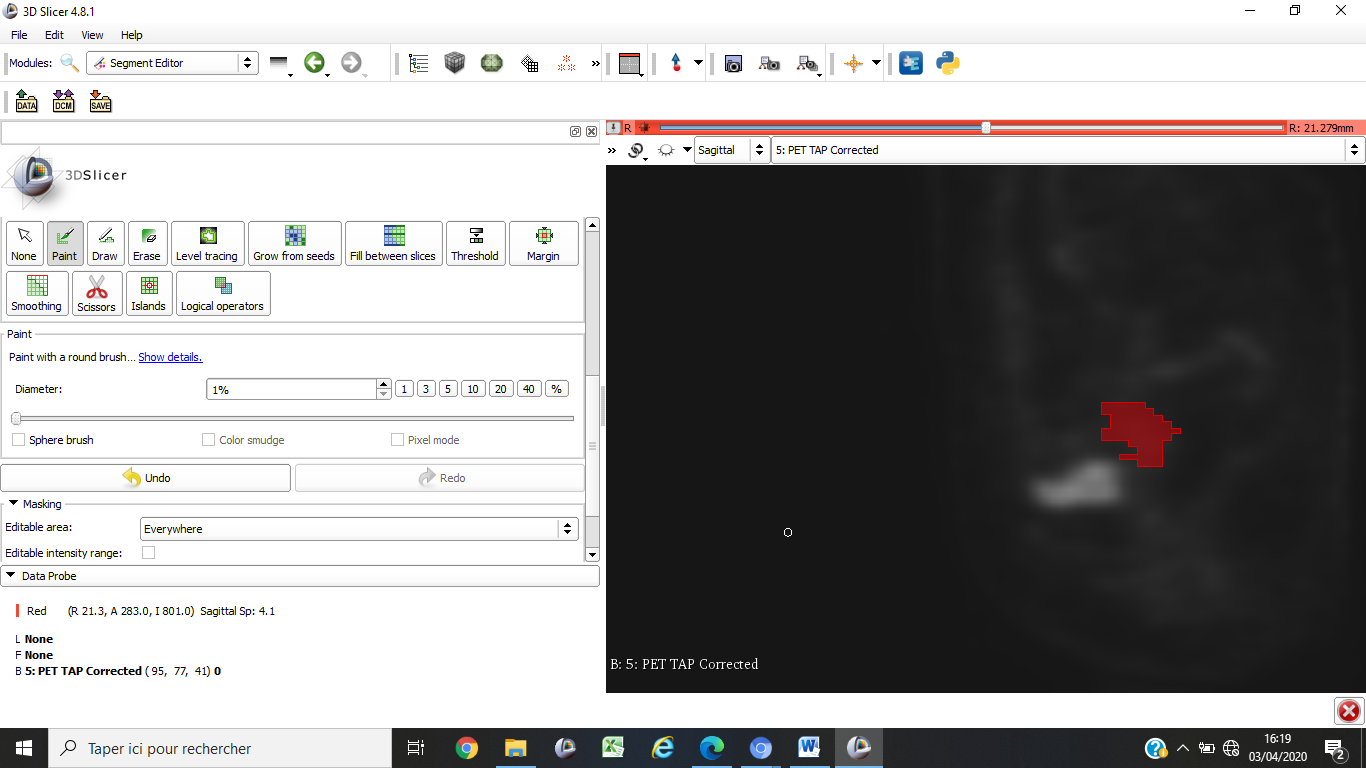
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anterior



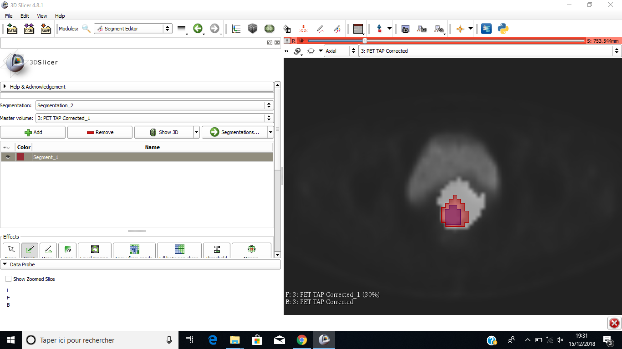
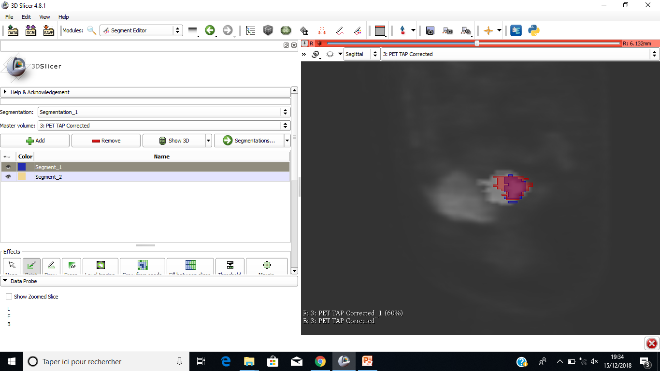
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**Table S1: comparison between 2 subgroups**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | |  |  |  |  | |  | |
|  | n=14 | % | n=7 | | | | % | | *P* |
| Age median (range) | 55 (34-79) |  | 53 (32-77) | | | |  | | 0.83 |
| FIGO stage |  |  |  | | | |  | |  |
| IB1 | 1 | 7 | 0 | | | | 0 | | 0.70 |
| IB2 | 0 | 0 | 1 | | | | 14 | | 0.74 |
| IIA | 1 | 7 | 0 | | | | 0 | | 0.70 |
| IIB | 9 | 65 | 3 | | | | 44 | | 0.65 |
| IIIA | 0 | 0 | 1 | | | | 14 | | 0.74 |
| IIIB | 2 | 14 | 1 | | | | 14 | | 0.50 |
| IVA | 1 | 7 | 1 | | | | 14 | | 0.78 |
| Histology |  |  |  | | | |  | |  |
| Squamous carcinoma | 12 | 85 | 5 | | | | 71 | | 0.86 |
| Adenocarcinoma | 2 | 15 | 1 | | | | 19 | | 0.69 |
| Adenosquamous carcinoma | 0 | 0 | 0 | | | | 0 | | 1.00 |
| Clear cell carcinoma | 0 | 0 | 1 | | | | 14 | | 0.74 |
| Lymph node involvement |  |  |  | | | |  | |  |
| Uninvoled | 6 | 43 | 3 | | | | 43 | | 0.64 |
| Involved | 8 | 57 | 4 | | | | 57 | | 0.64 |
| pelvic | 6 | 75 | 2 | | | | 50 | | 0.83 |
| pelvic and para-aortic | 2 | 25 | 2 | | | | 50 | | 0.83 |
| Treatment |  |  |  | | | |  | |  |
| 3D-CRT | 10 | 71 | 5 | | | | 71 | | 0.61 |
| IMRT | 4 | 29 | 2 | | | | 29 | | 0.61 |
| EBRT dose median (range) | 45 (45-54) |  | 45 (45-54) | | | |  | | 1.00 |
| BT dose median (range) | 24 (21-26) |  | 24 (21-26) | | | |  | | 1.00 |
| Relapse |  |  |  | | | |  | |  |
| isolated local recurrence | 5 | 36 | 3 | | | | 42 | | 0.83 |
| local and nodal recurrences | 6 | 43 | 2 | | | | 29 | | 0.88 |
| local and distant recurrences | 3 | 21 | 2 | | | | 29 | | 0.89 |
| Time of relapse (months) | 6±4 |  | 6±4 | | | |  | | 1.00 |
| PET1 (mean) |  |  |  | | | |  | |  |
| SUVmax | 19.3±7.2 |  | 19.8±7.5 | | | |  | | 0.88 |
| SUVmean | 6.5±2.8 |  | 6.7±2.9 | | | |  | | 0.88 |
| TLG | 284.4±279.5g |  | 287.3±281.8g | | | |  | | 0.98 |
| PET2 (mean) |  |  |  | | | |  | |  |
| SUVmax | 20.9±9.7 |  | 21.5±10.1 | | | |  | | 0.90 |
| SUVmean | 8.7±3.9 |  | 9.1±4.2 | | | |  | | 0.83 |
| TLG | 184.7±277.3g |  | 186.7±279.1g | | | |  | | 0.99 |

Abbreviations: FIGO= International Federation of Gynecology and Obstetrics, 3D-RT= three-dimensional conformal radiotherapy, IMRT= intensity-modulated photon radiotherapy, EBRT= external beam radiotherapy, BT=brachytherapy, SUVmax= maximum standardized uptake value, SUVmean= mean standardized uptake value, TLG=Total Lesion Glycolysis