

AREN 1921 WHOLE LUNG IMRT Contouring Steps in a 20 yr. old male

All contours should be done on planning scan, this atlas shows them on the MinIP scan for easy viewing

- 1). Contour Right and Left lungs on the Planning scan (Left side of atlas)
- 2). Co-register MinIP simulation lung scan to the Planning scan (Right side of atlas)
- 3). On the Planning scans expand Rt and Lt Lung volumes with 0 expansion and modification to derive the Rt and Lt Lung CTV based on maximum lung expansion in MinIP scan. Changes will be mainly observed inferiorly near the diaphragm. If MinIP Scan lung volumes are smaller than the Rt and Lt lung volumes on planning scans, NO REDUCTION of volumes should be made to derive CTVs.
- 4). Combine Rt and Lt CTV with zero margin to obtain Combined Lung CTV
- 5). Expand Combined Lung CTV to by 1cm to obtain Combined lung PTV
- 6). Modify Combined Lung PTV to obtain Lung PTV with modifications in the following regions:
 - A). Around breast buds in girls and thyroid with only 5 mm expansion margin beyond CTV instead of 1cm
 - B). Sternum and Mediastinum to include lymph nodes up to 2cm below carina
 - C). Include entire vertebral body except in older children (>13 years old) and adults
 - D). Prevertebral space: at least 1cm margin anterior to vertebra beginning from 2cm below carina to inferior extent of the PTV

Axial CT scan slides from 3-71

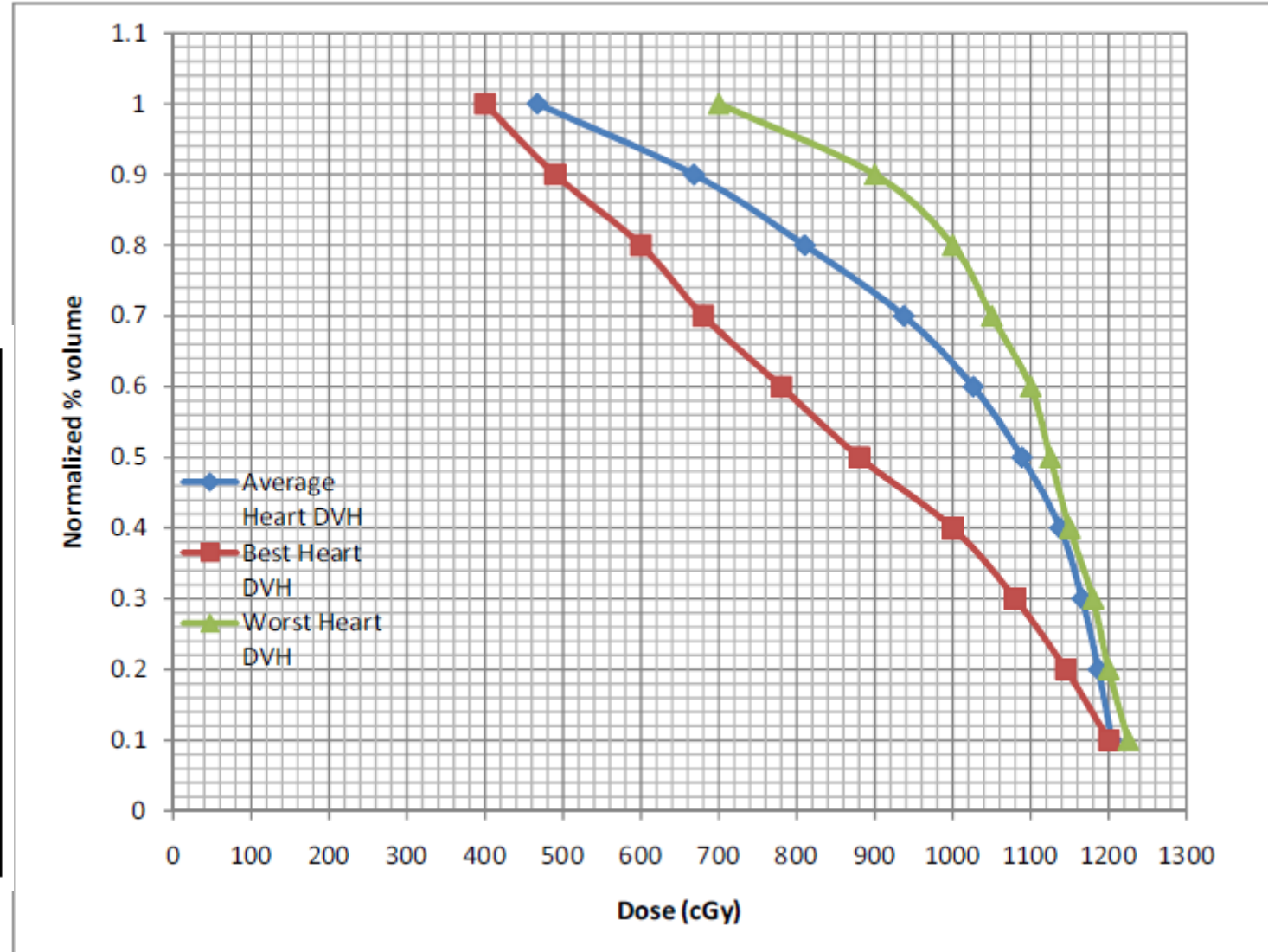
Coronal CT scan on slide 73

Heart DVH data for RT planning dose constraints on slide 2

Heart DVH for a prescription of 12Gy

Use the below guidelines as a starting point for planning purposes.

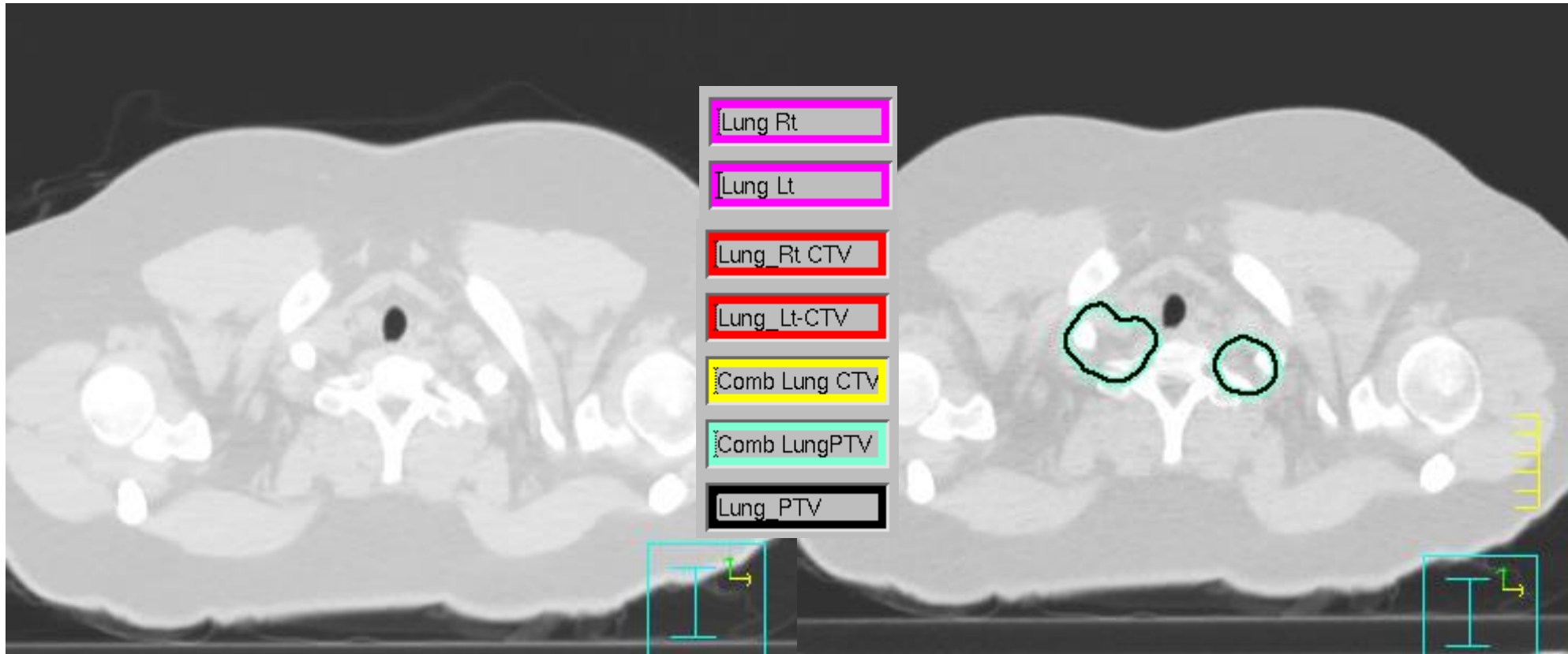
Heart norm.% vol	Average	Best	Least
	dose in cGy		
1	467	400	700
0.9	668	490	900
0.8	810	600	1000
0.7	938	680	1050
0.6	1026	780	1100
0.5	1089	880	1125
0.4	1138	1000	1150
0.3	1166	1080	1180
0.2	1187	1145	1200
0.1	1204	1200	1225



CTV, PTV

Planning Scan

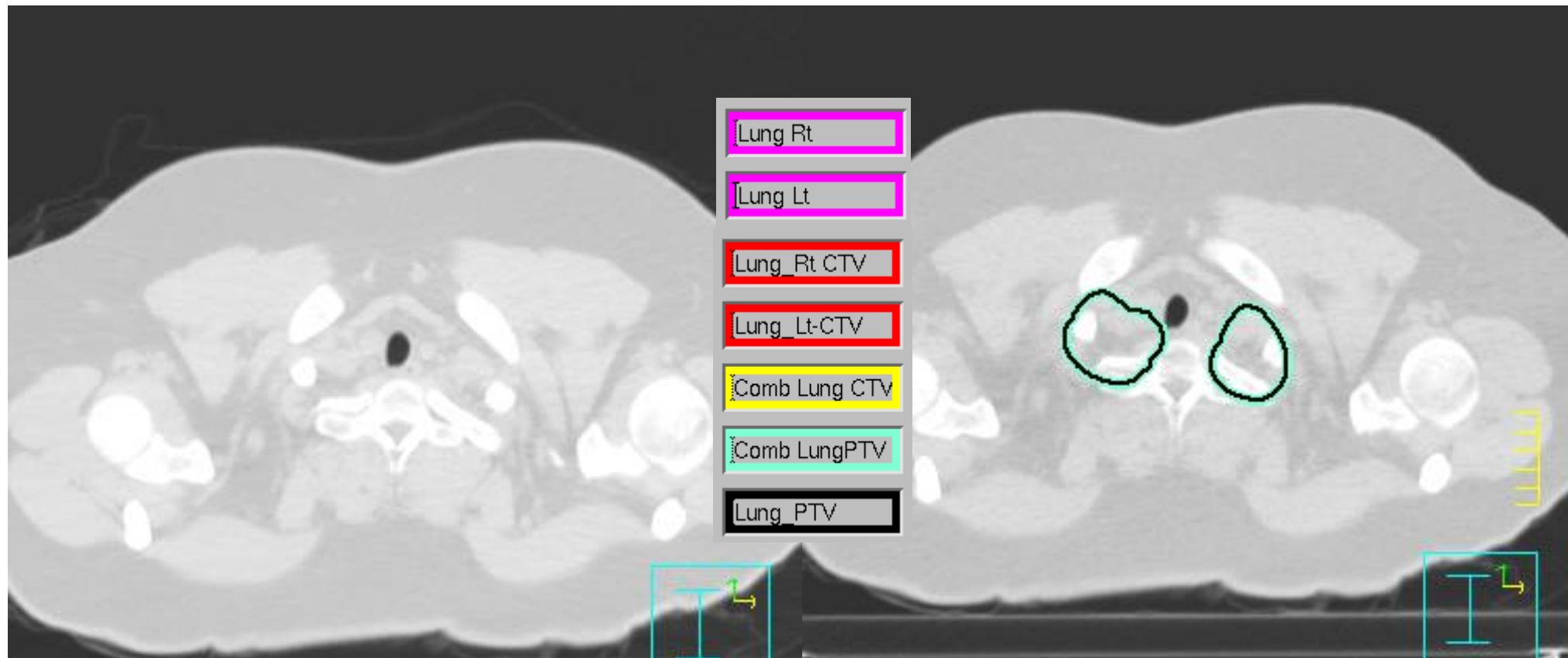
MinIP (Derived from 4DCT)



CTV, PTV

Planning Scan

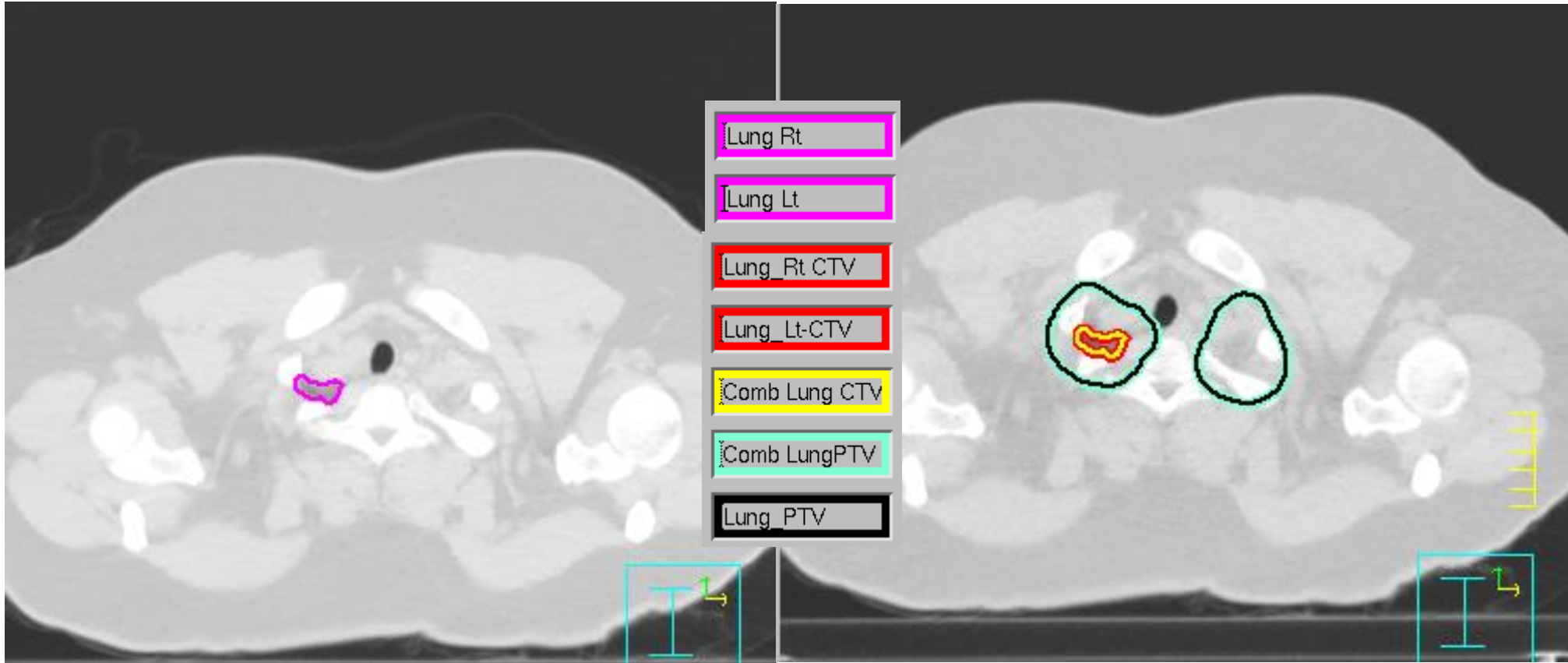
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CTV, PTV

Planning Scan

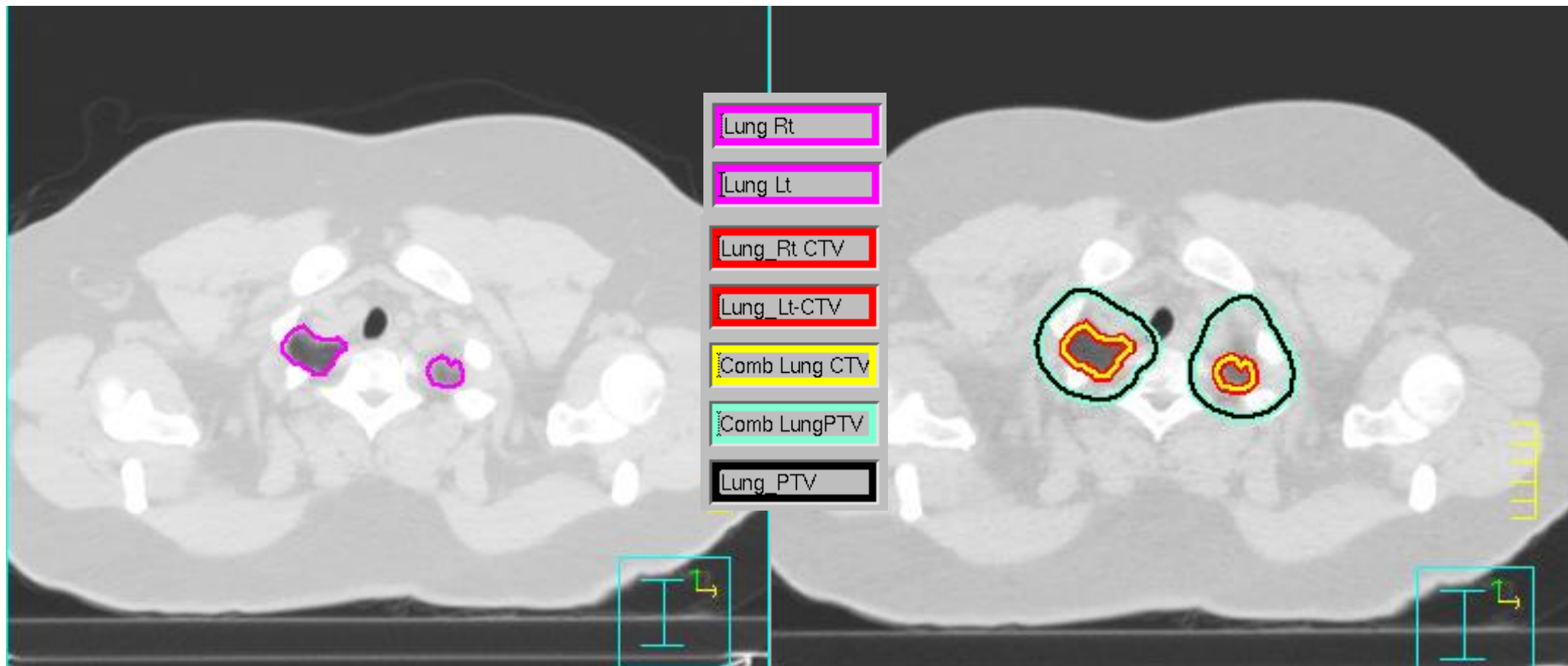
MinIP (Derived from 4DCT)



CTV, ITV, PTV

Planning Scan

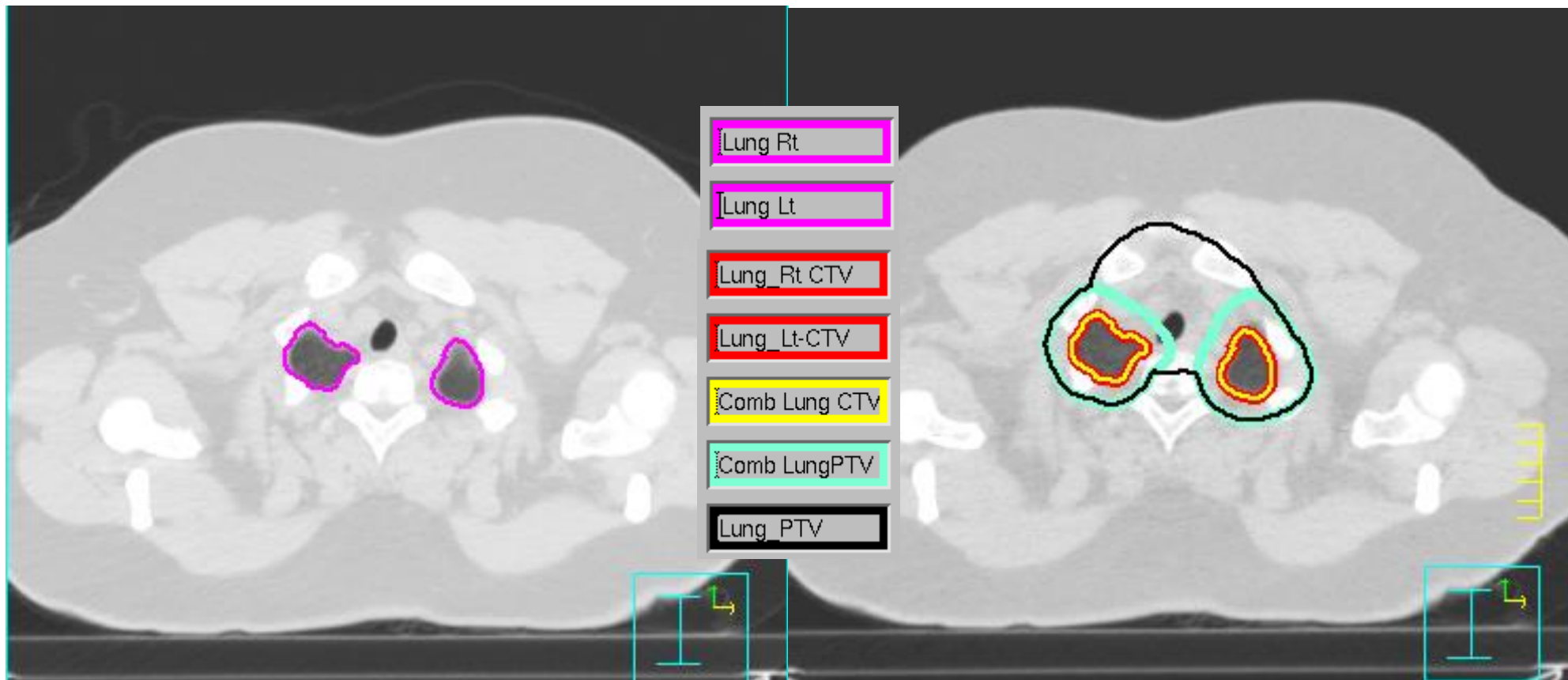
MinIP (Derived from 4DCT)



CTV, PTV

Planning Scan

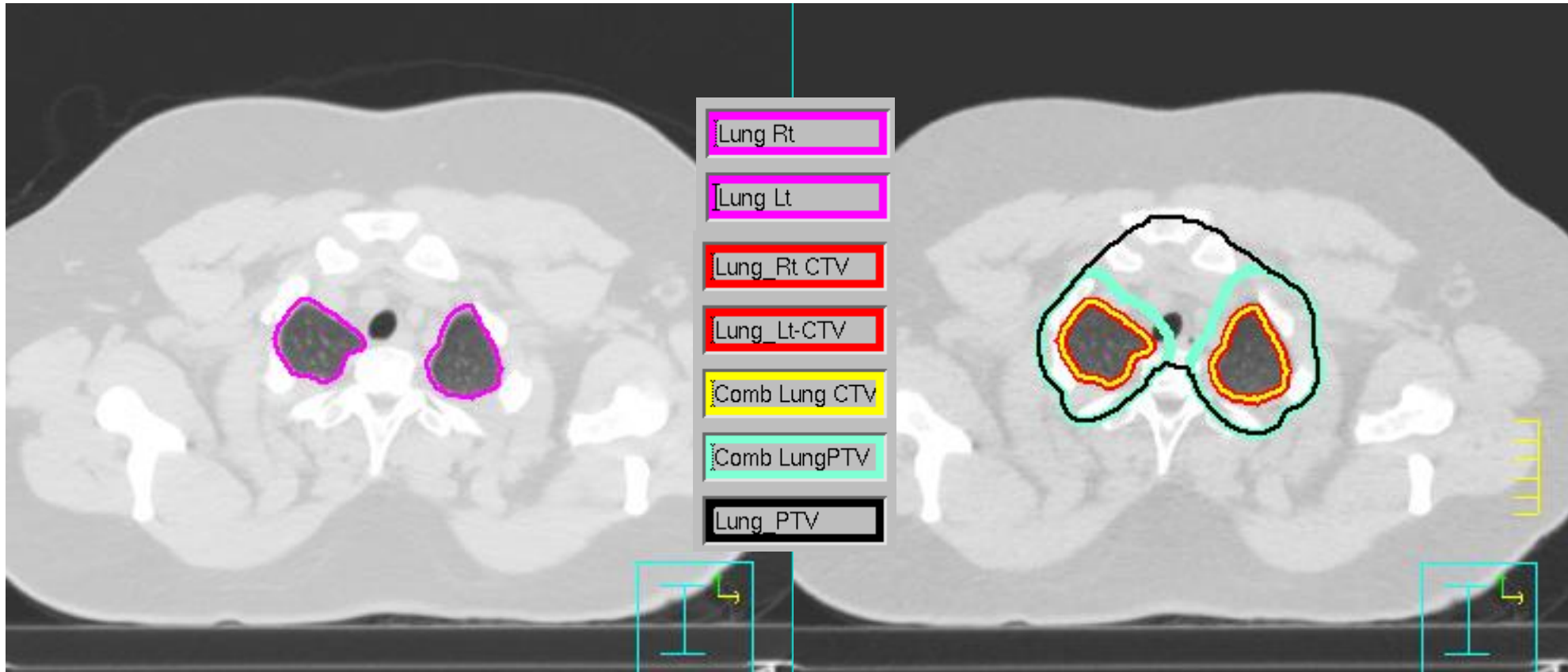
MinIP (Derived from 4DCT)



CTV, PTV

Planning Scan

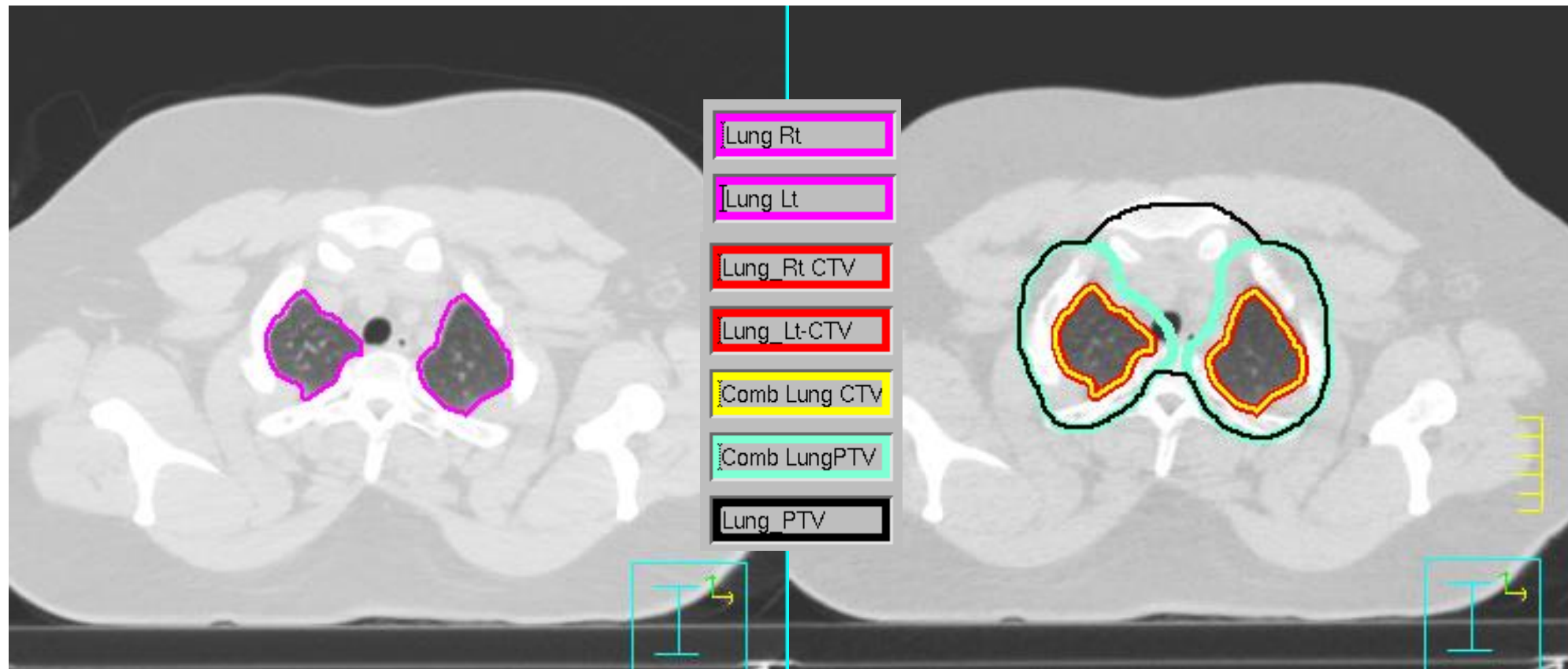
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CTV, PTV

Planning Scan

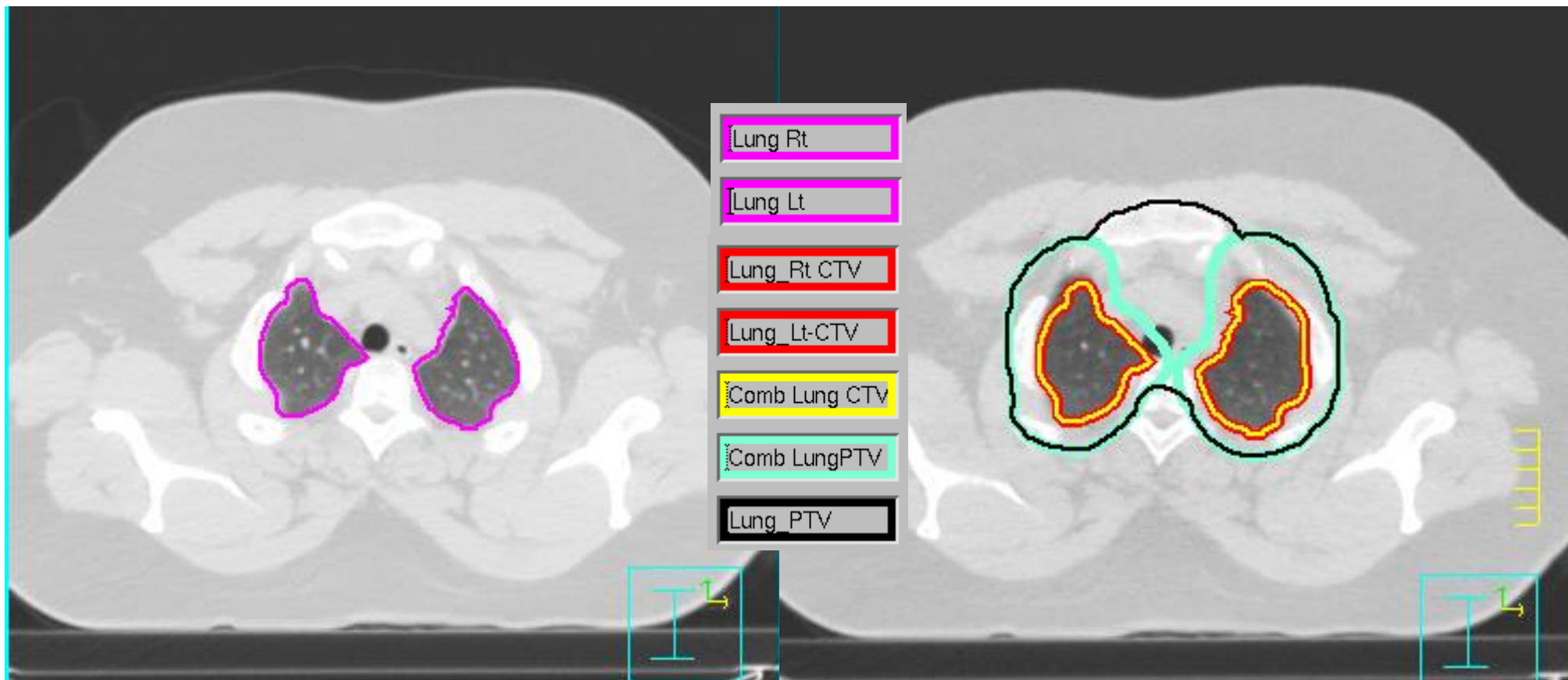
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CTV, PTV

Planning Scan

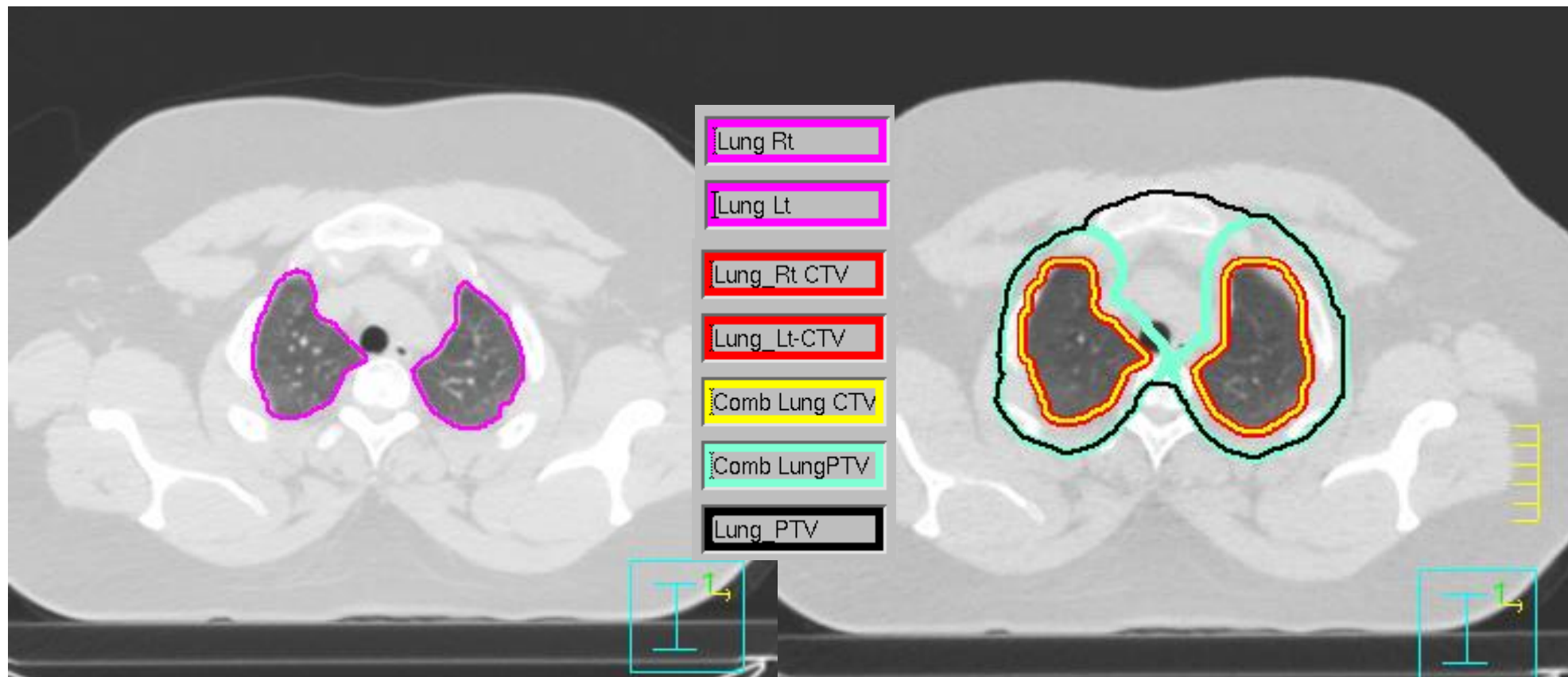
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CTV, PTV

Planning Scan

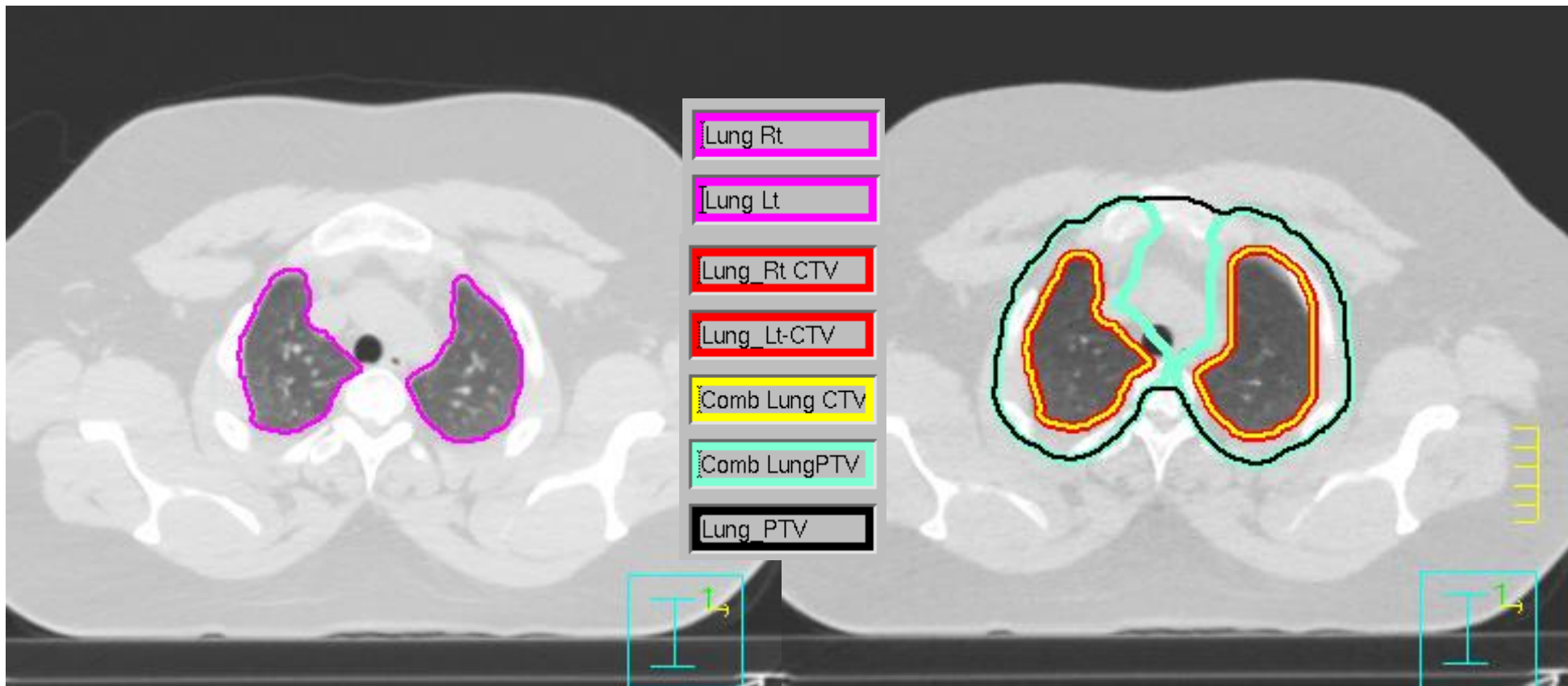
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CTV, PTV

Planning Scan

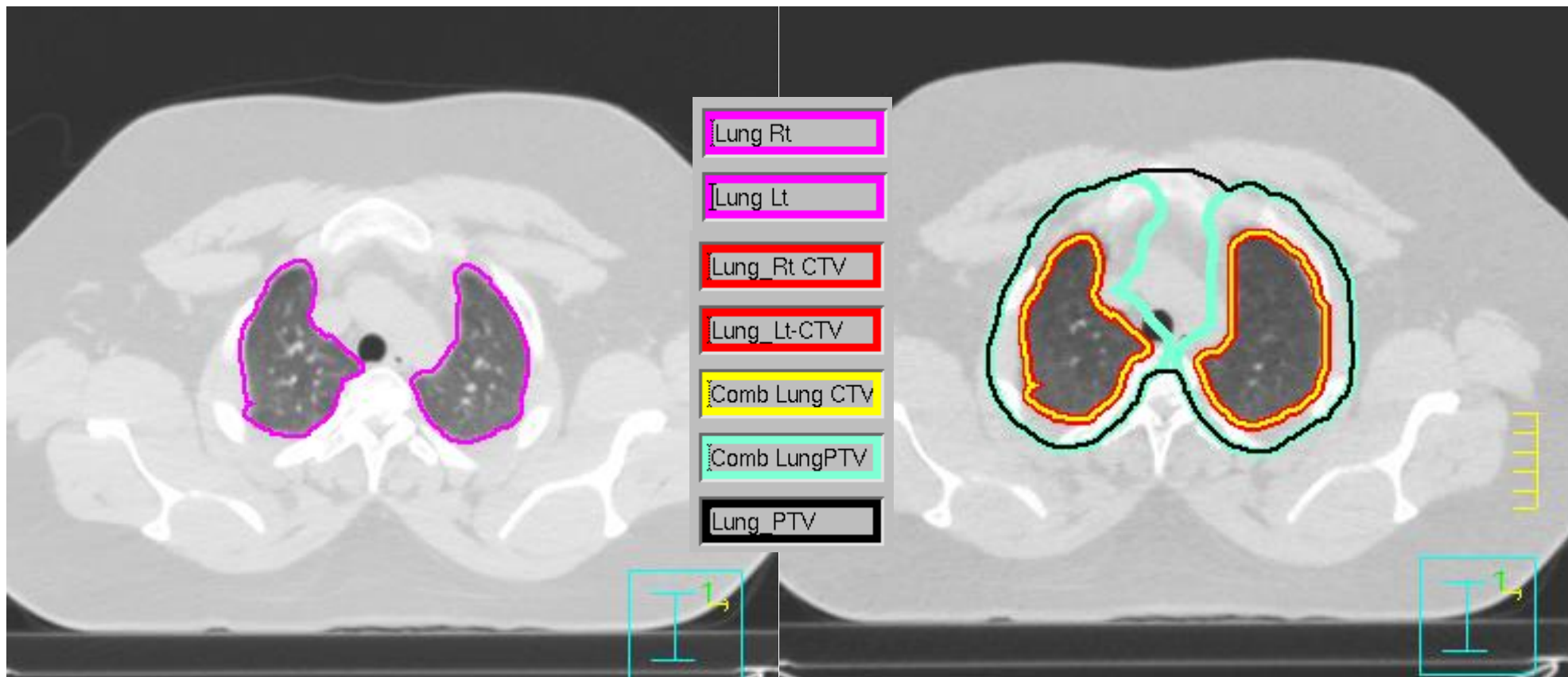
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CTV, PTV

Planning Scan

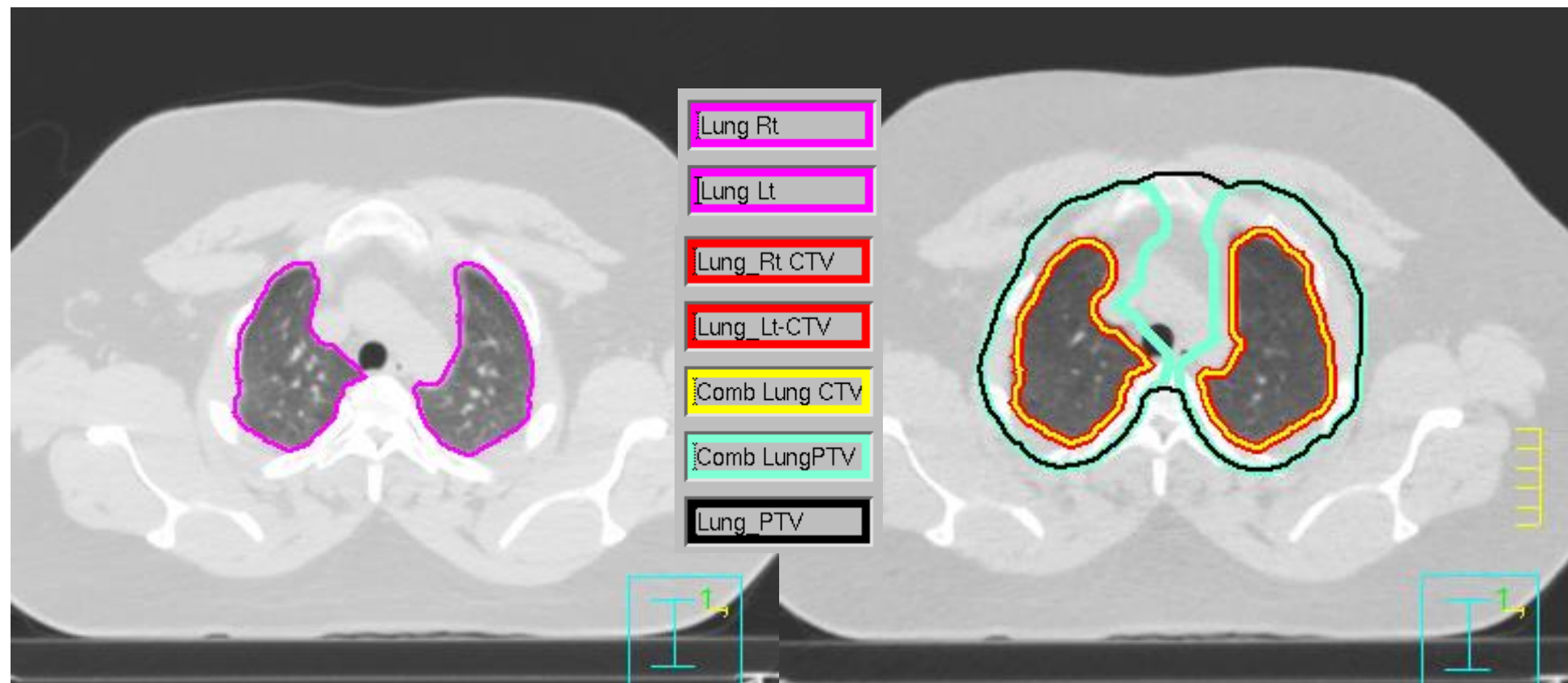
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CTV, PTV

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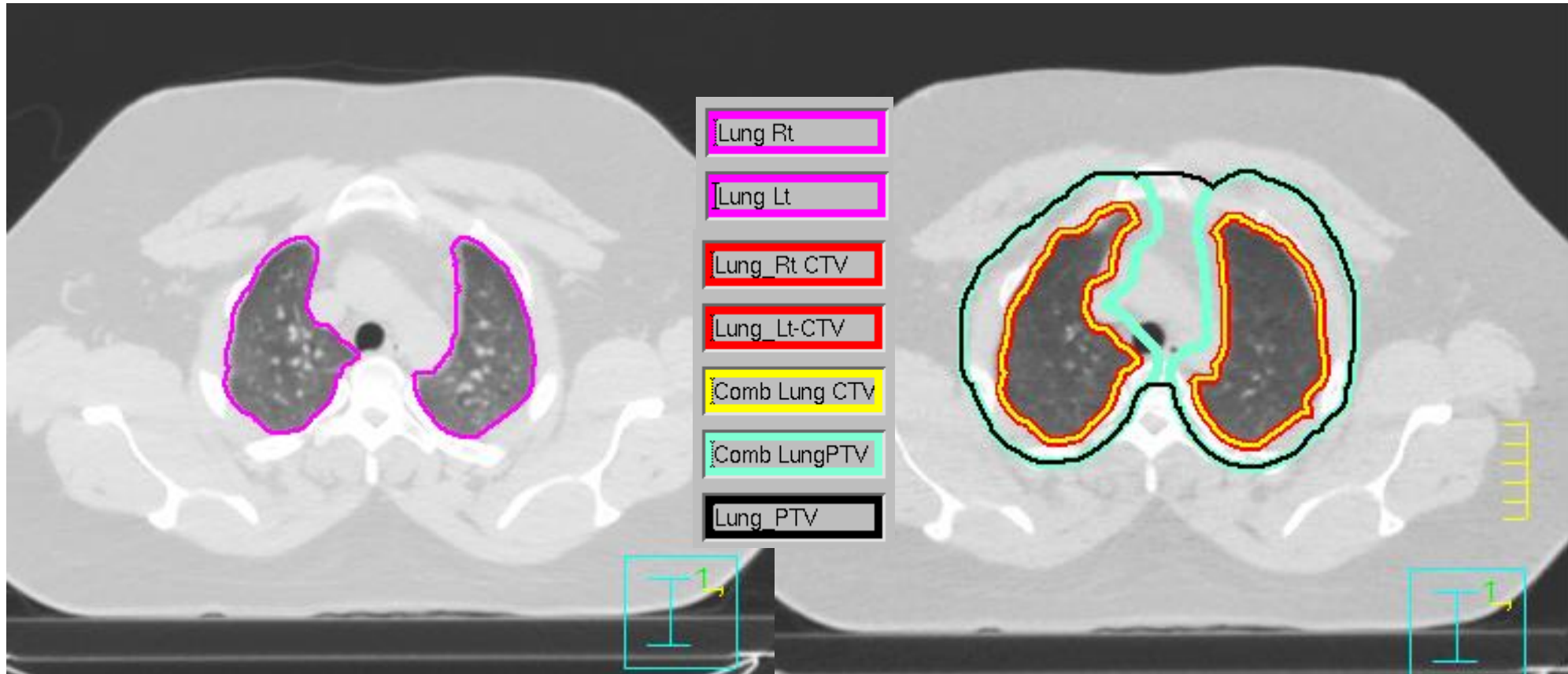
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CTV, PTV

Planning Scan

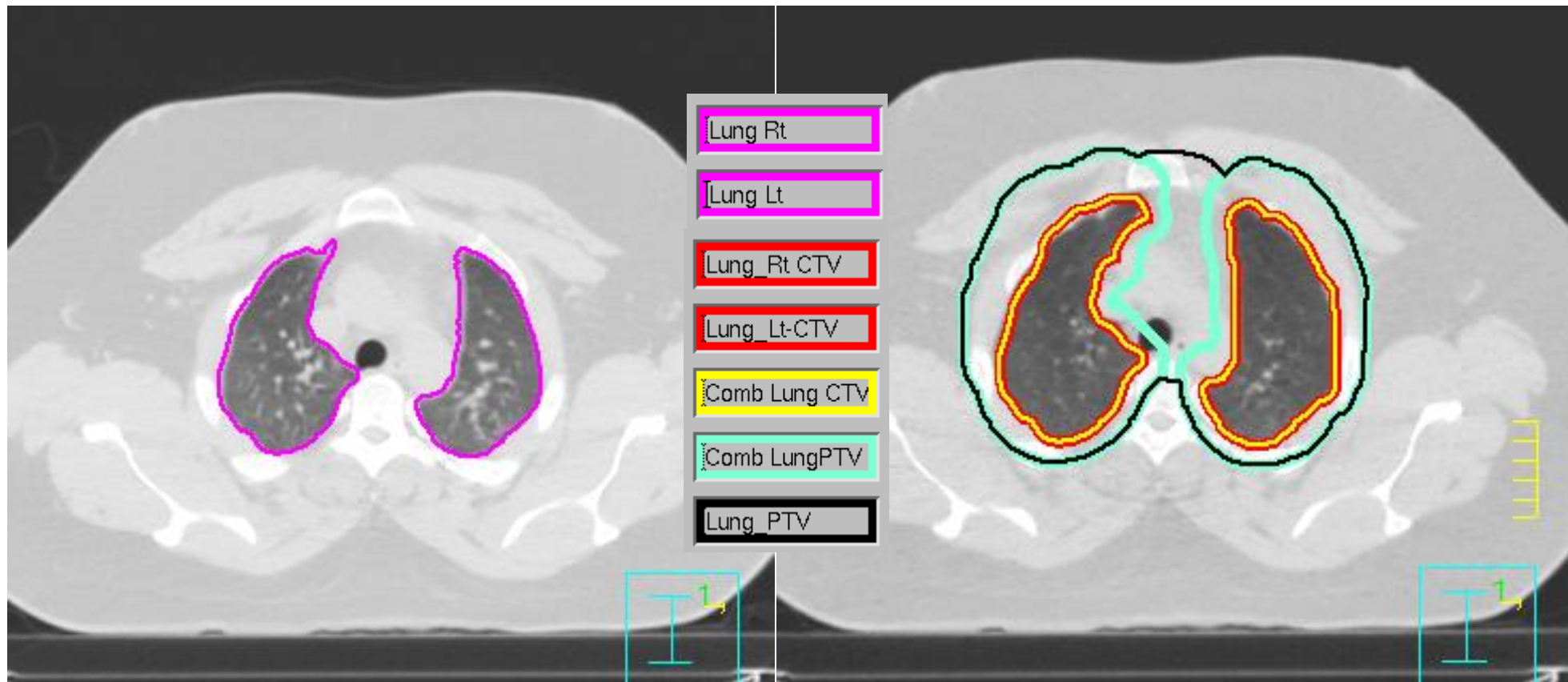
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CTV, PTV

Planning Scan

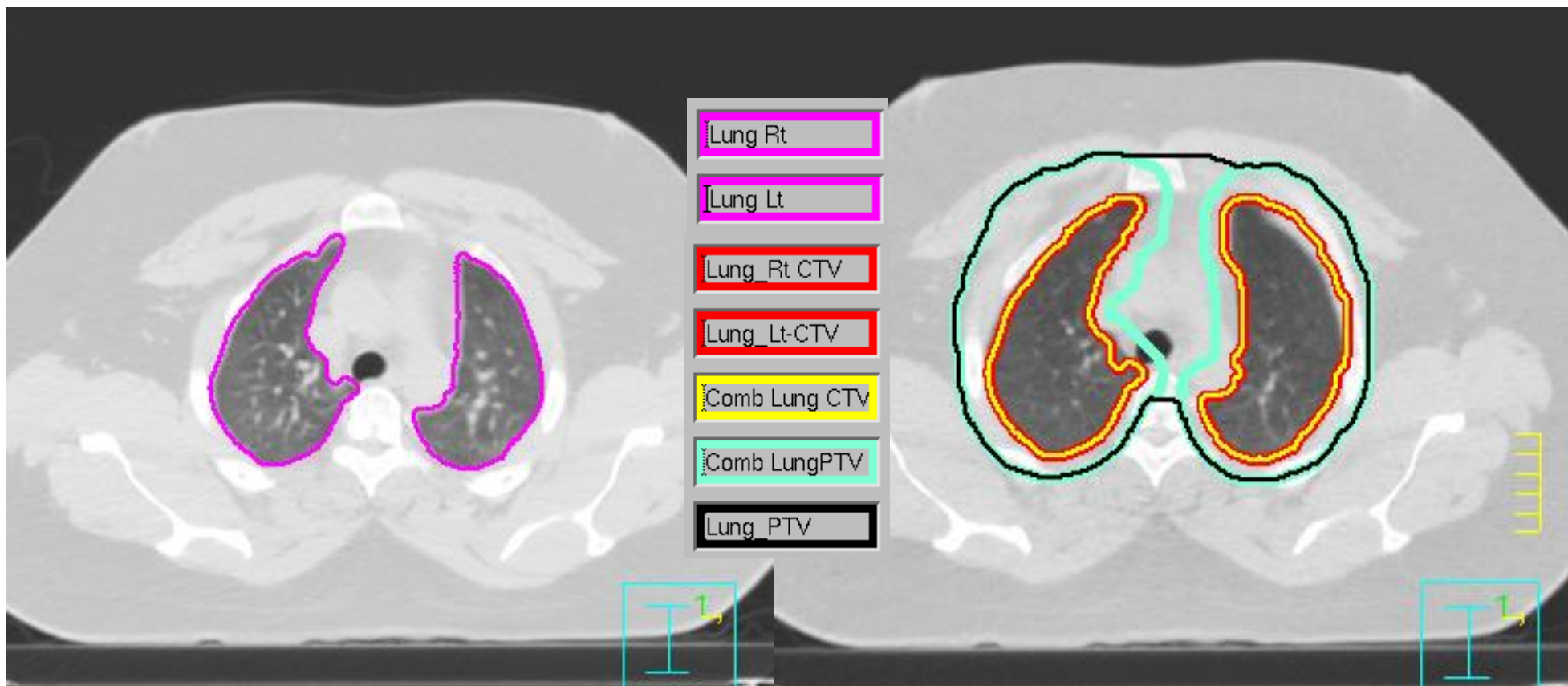
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CTV, PTV

Planning Scan

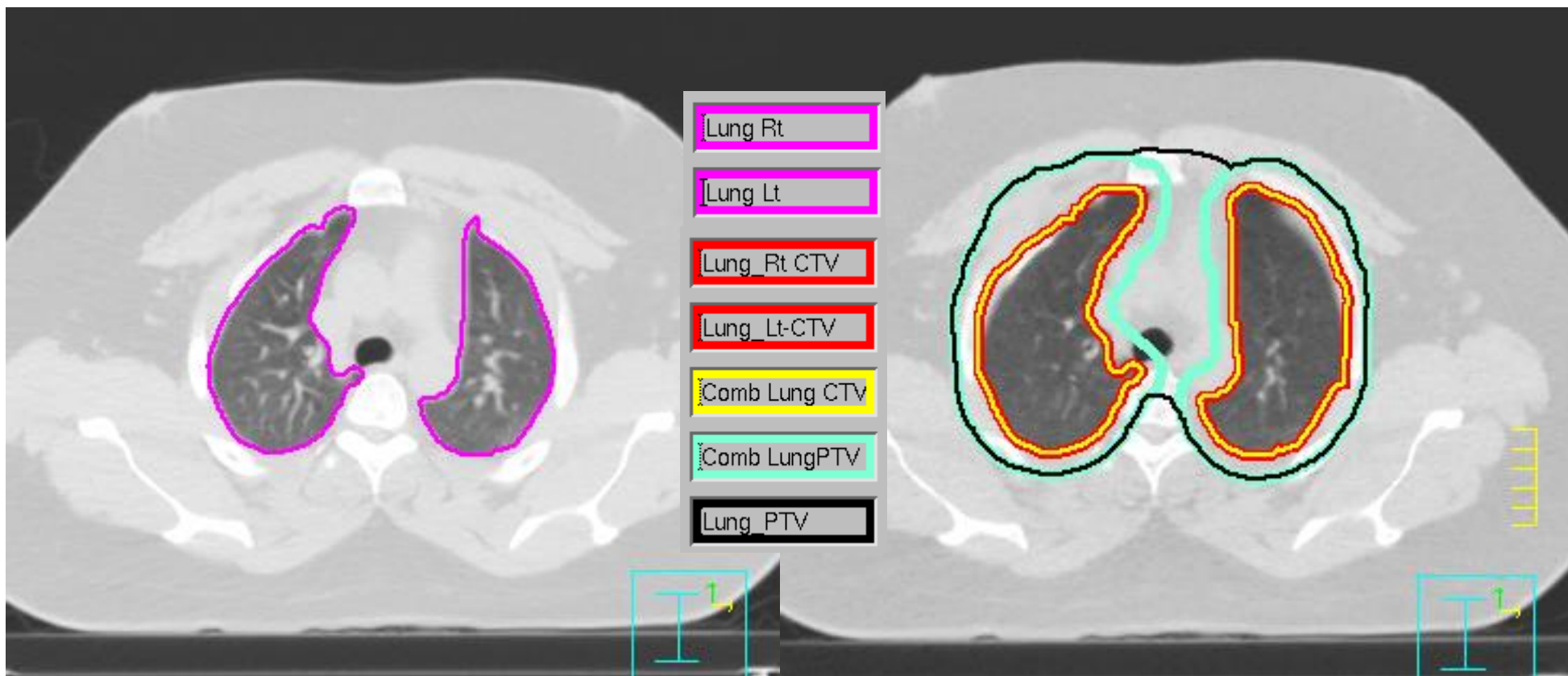
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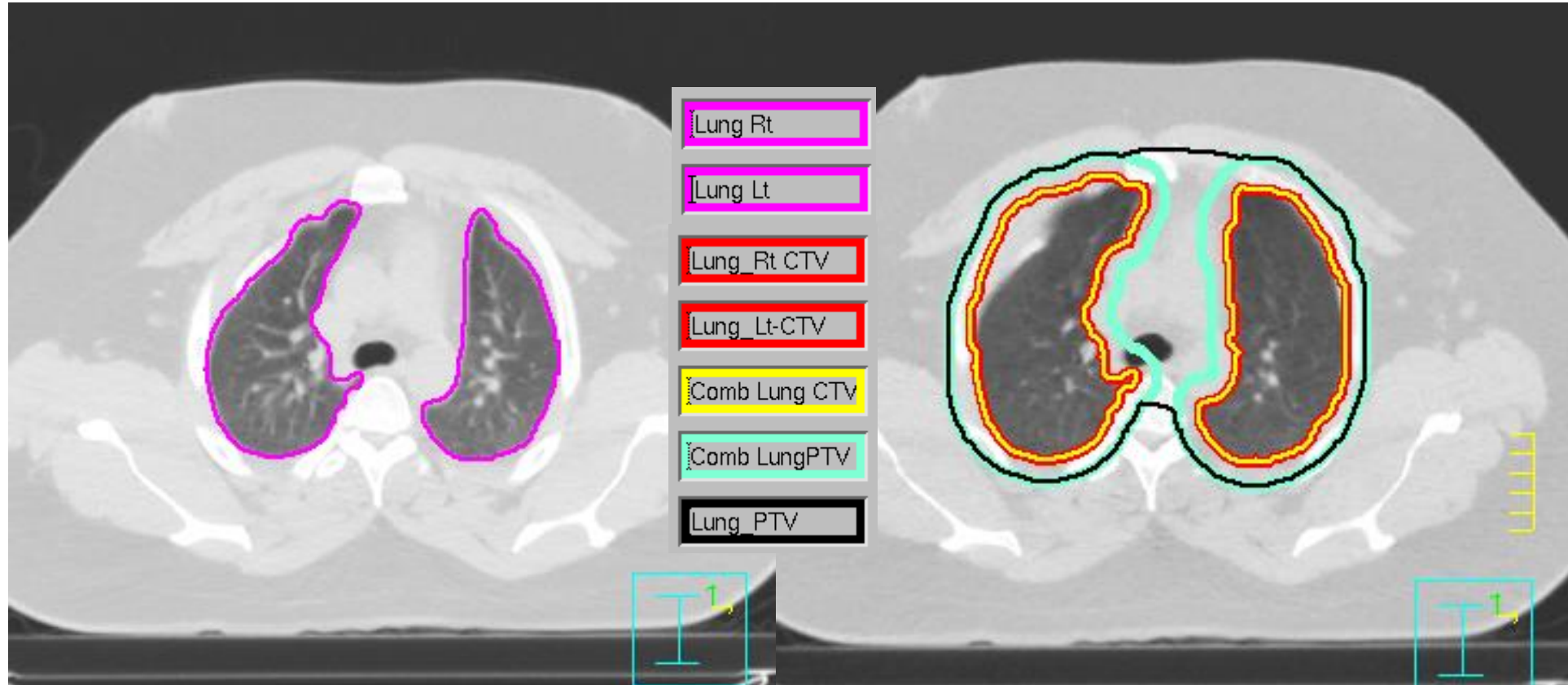
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CTV, PTV

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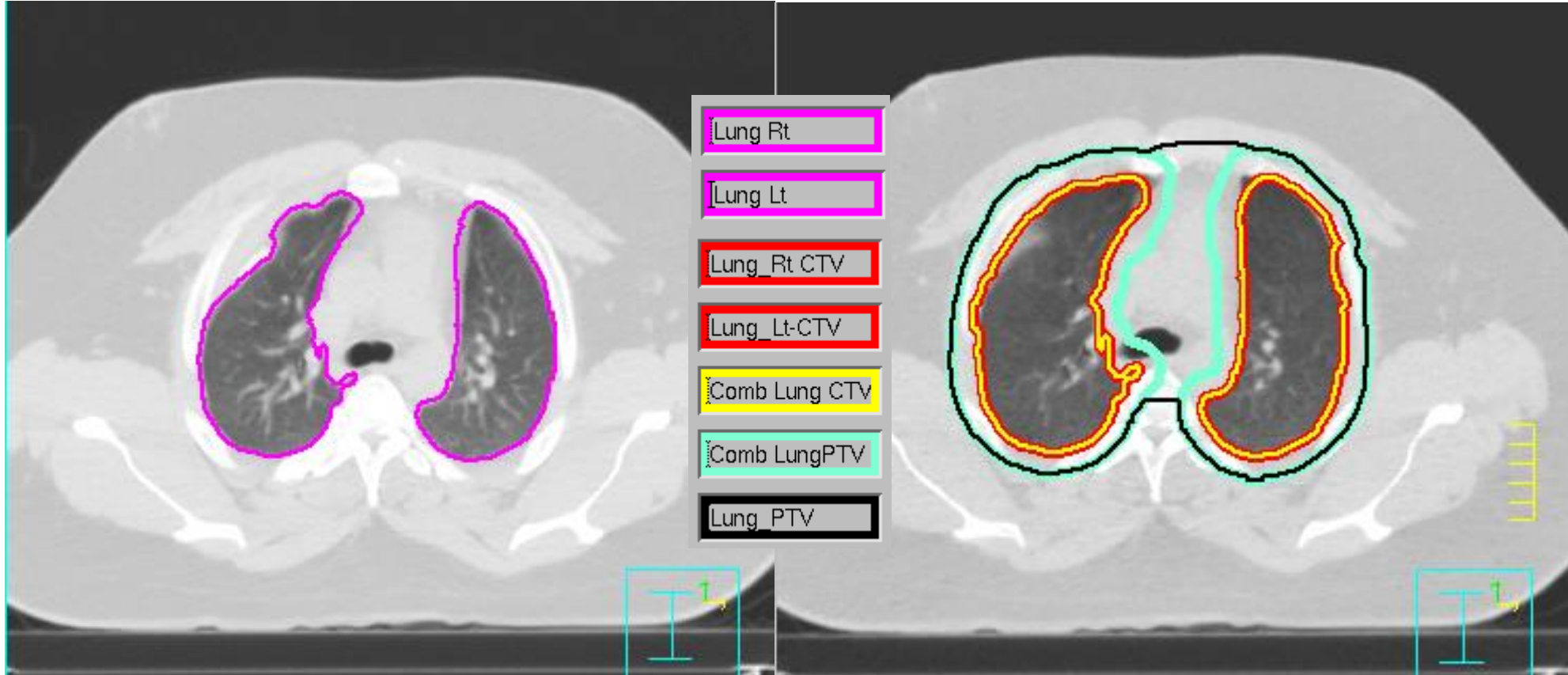
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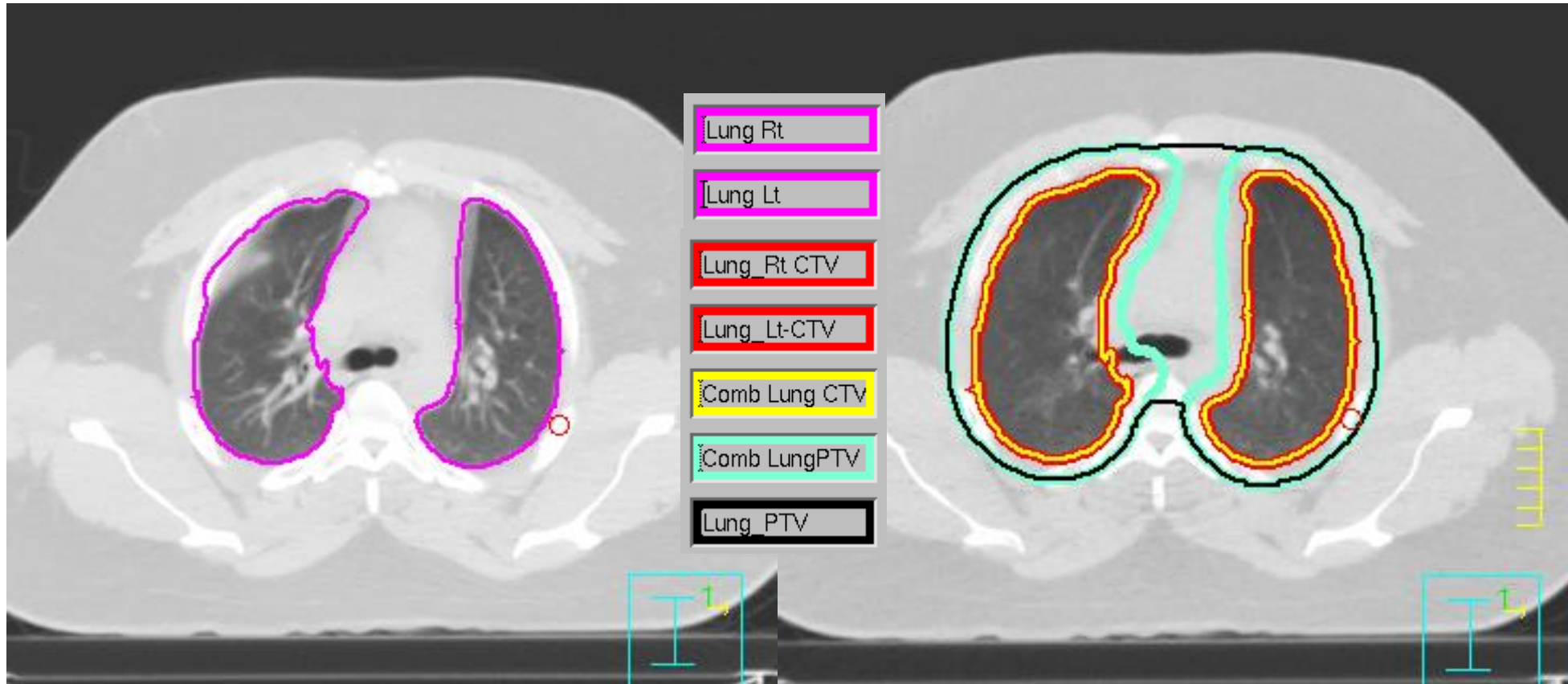
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CTV, PTV

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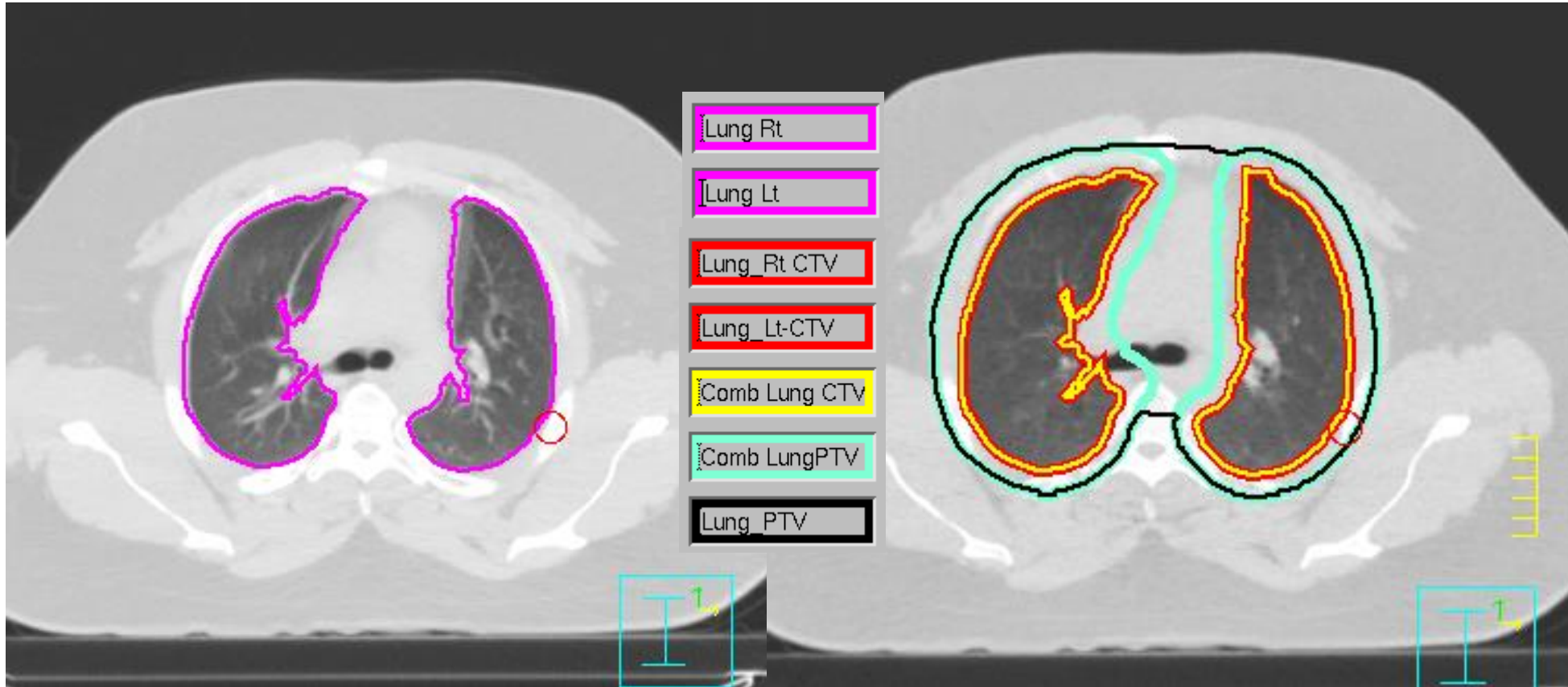
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CTV, PTV

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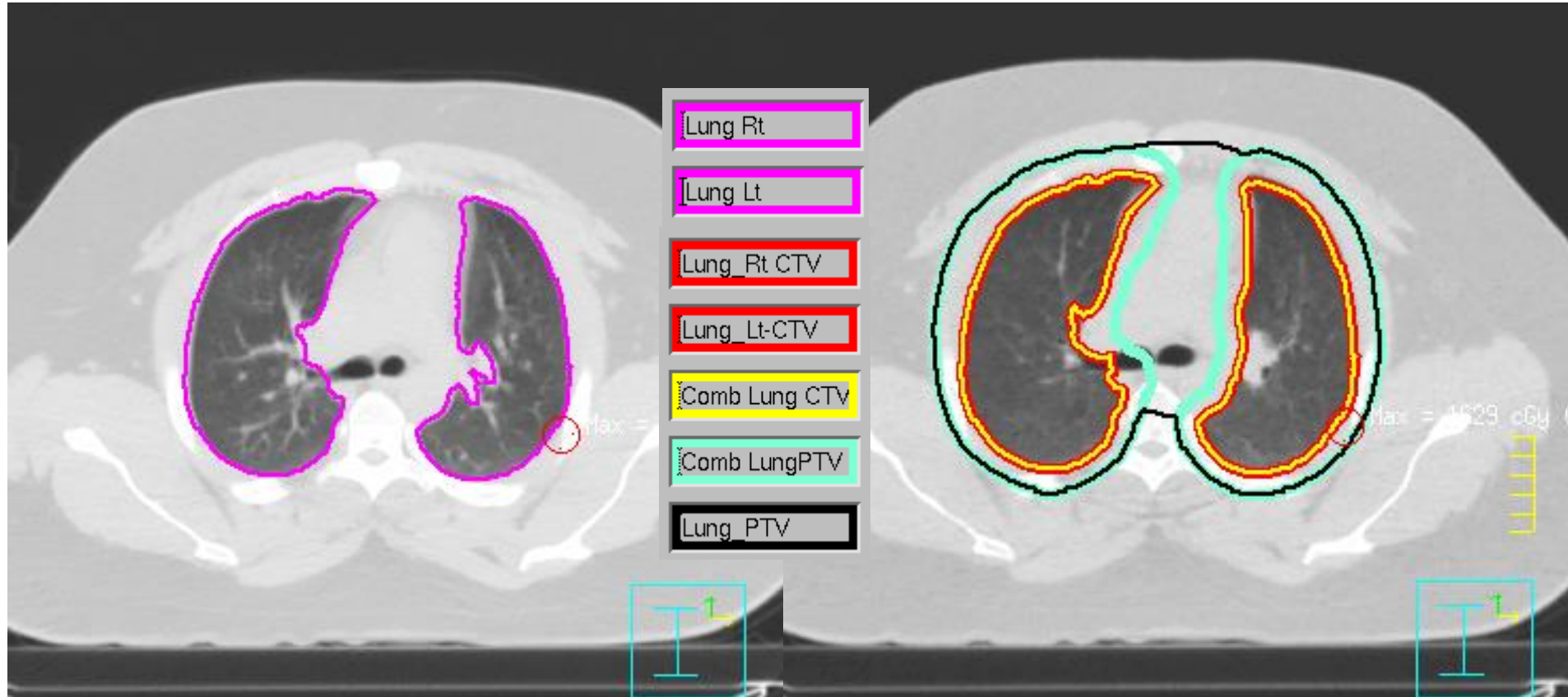
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CTV, PTV

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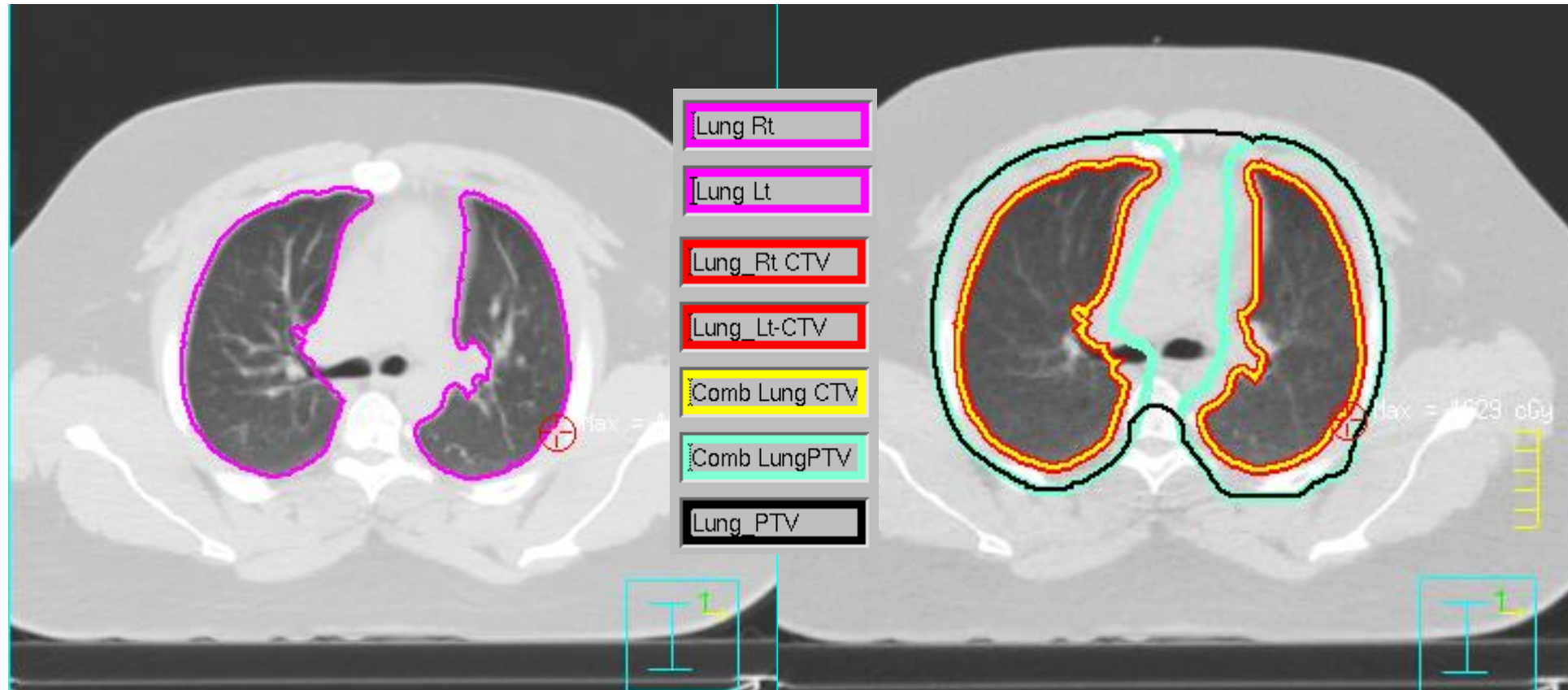
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CTV, PTV

Planning Scan

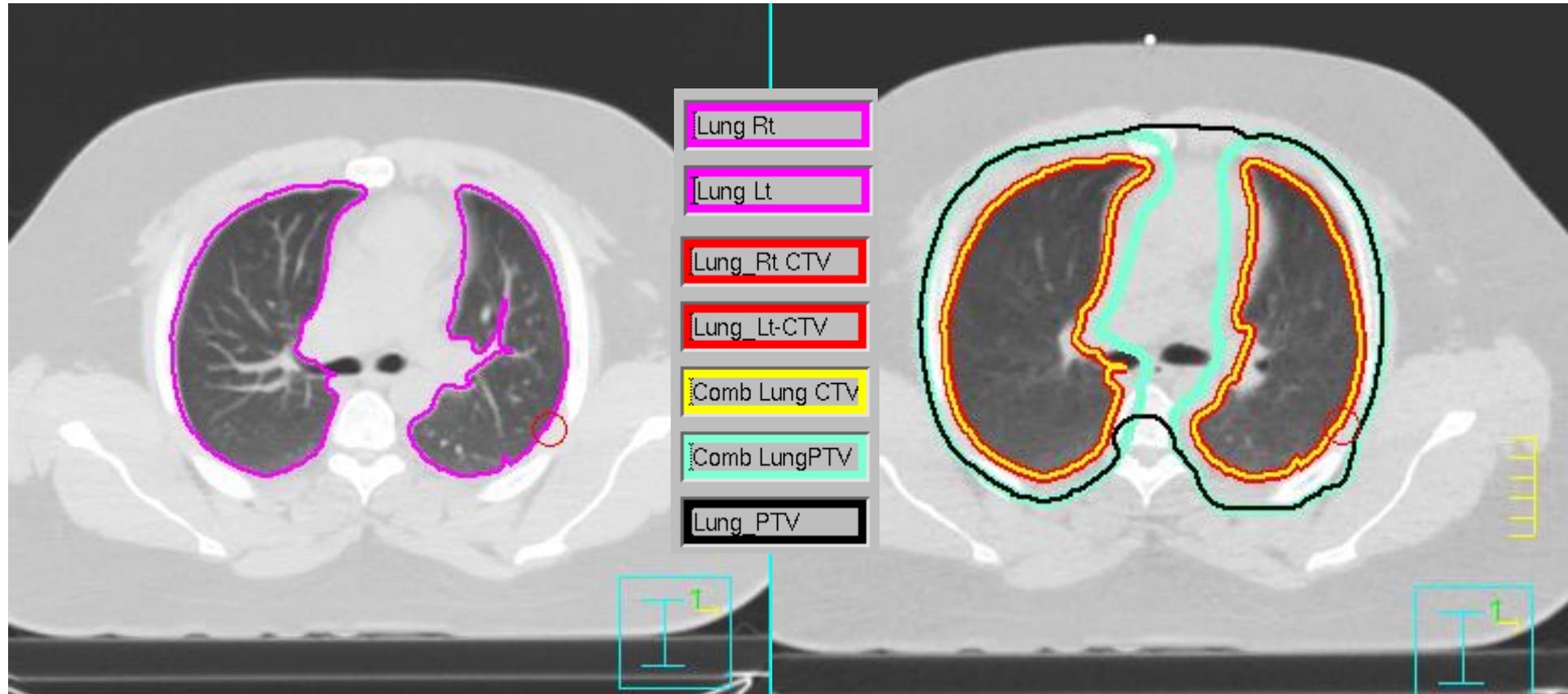
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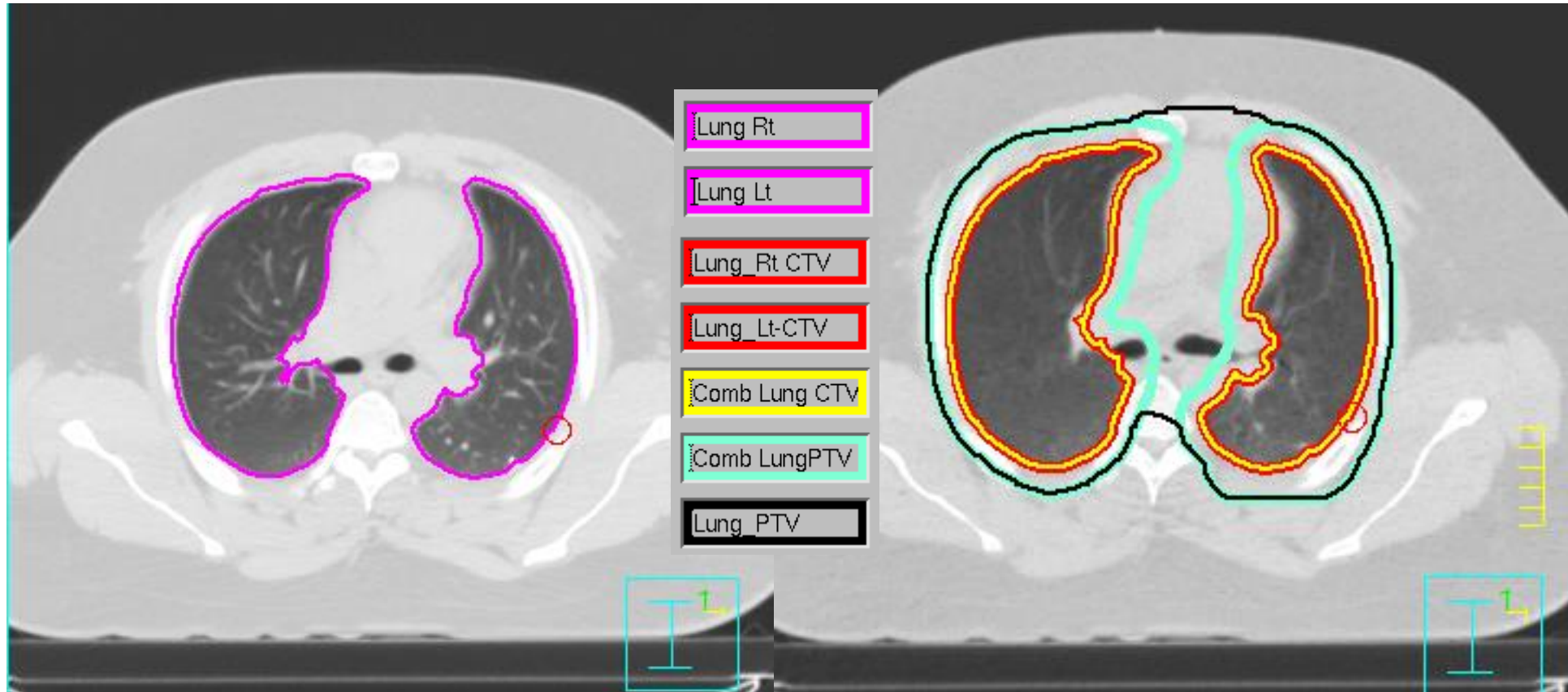
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CTV, PTV

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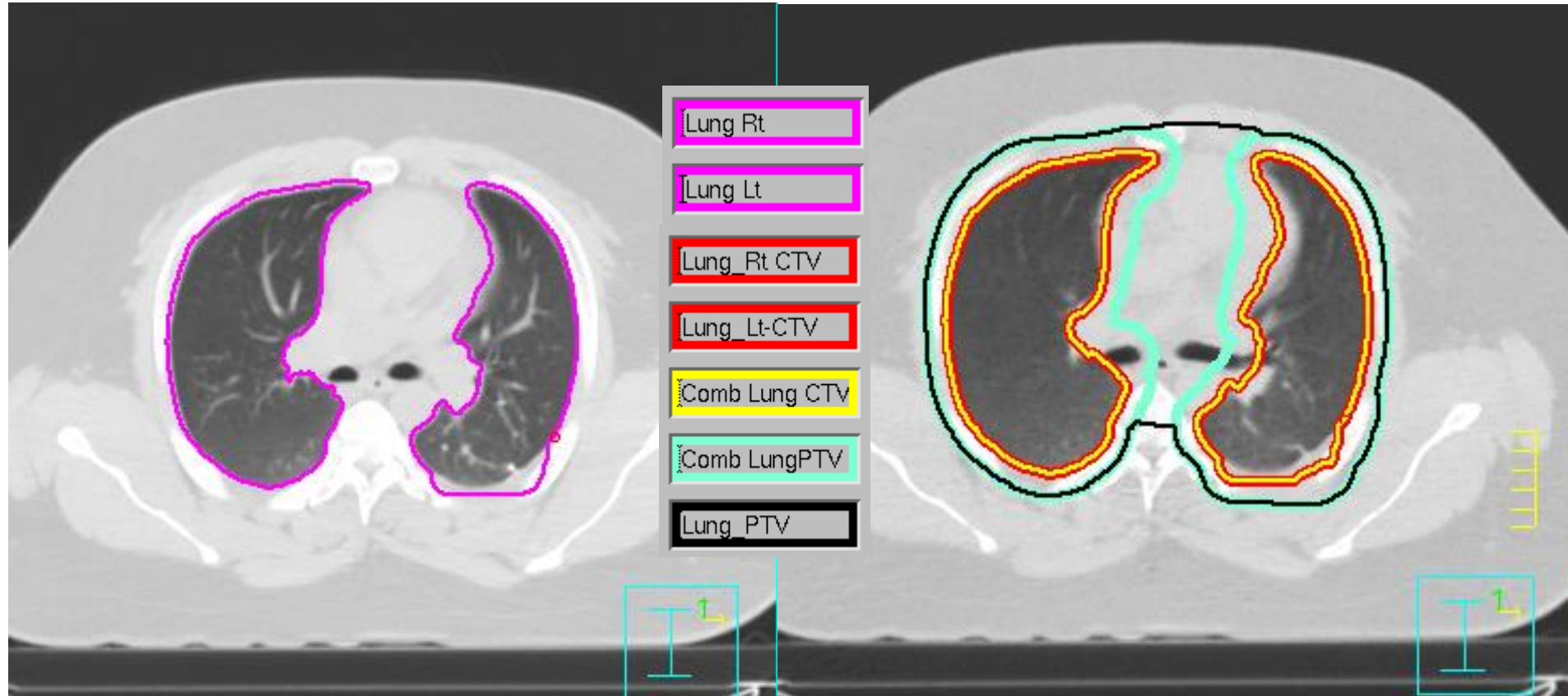
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CTV, PTV

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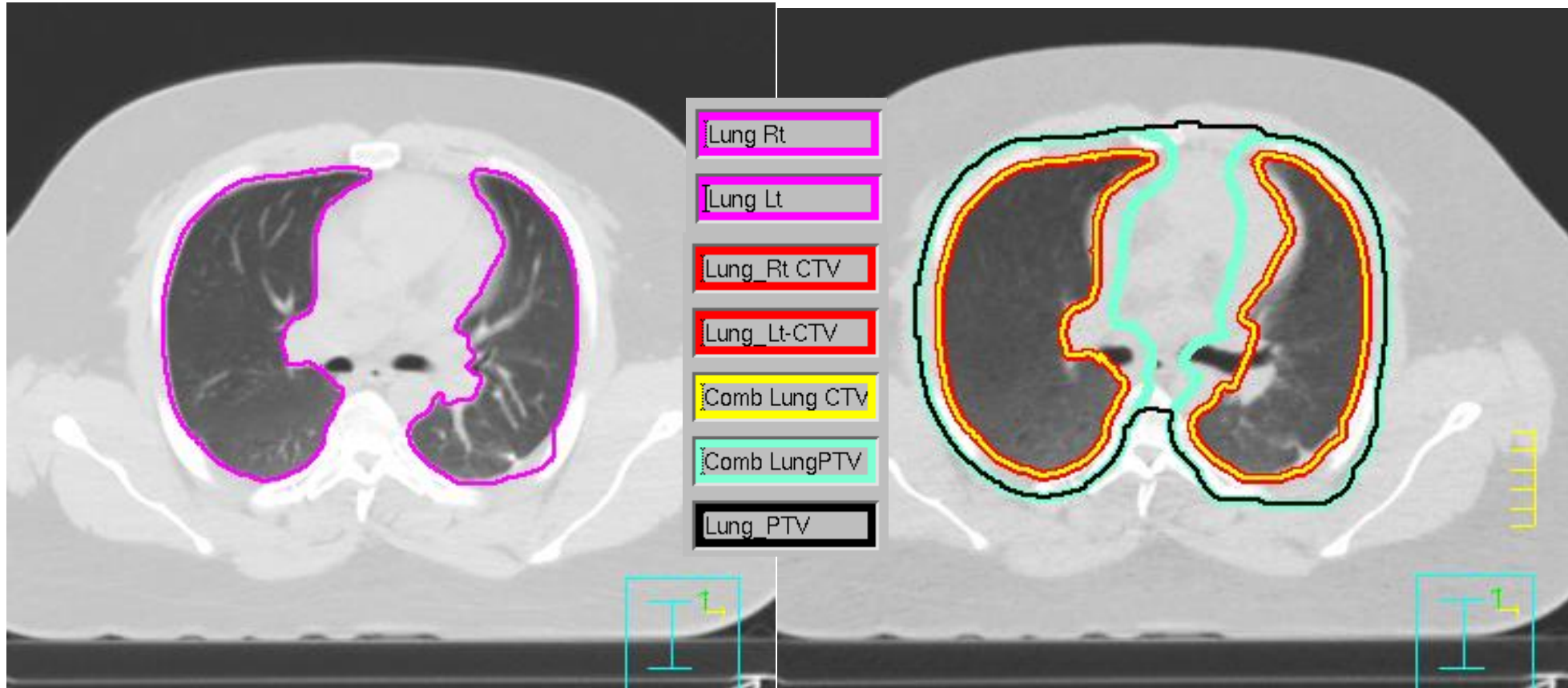
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CTV, PTV

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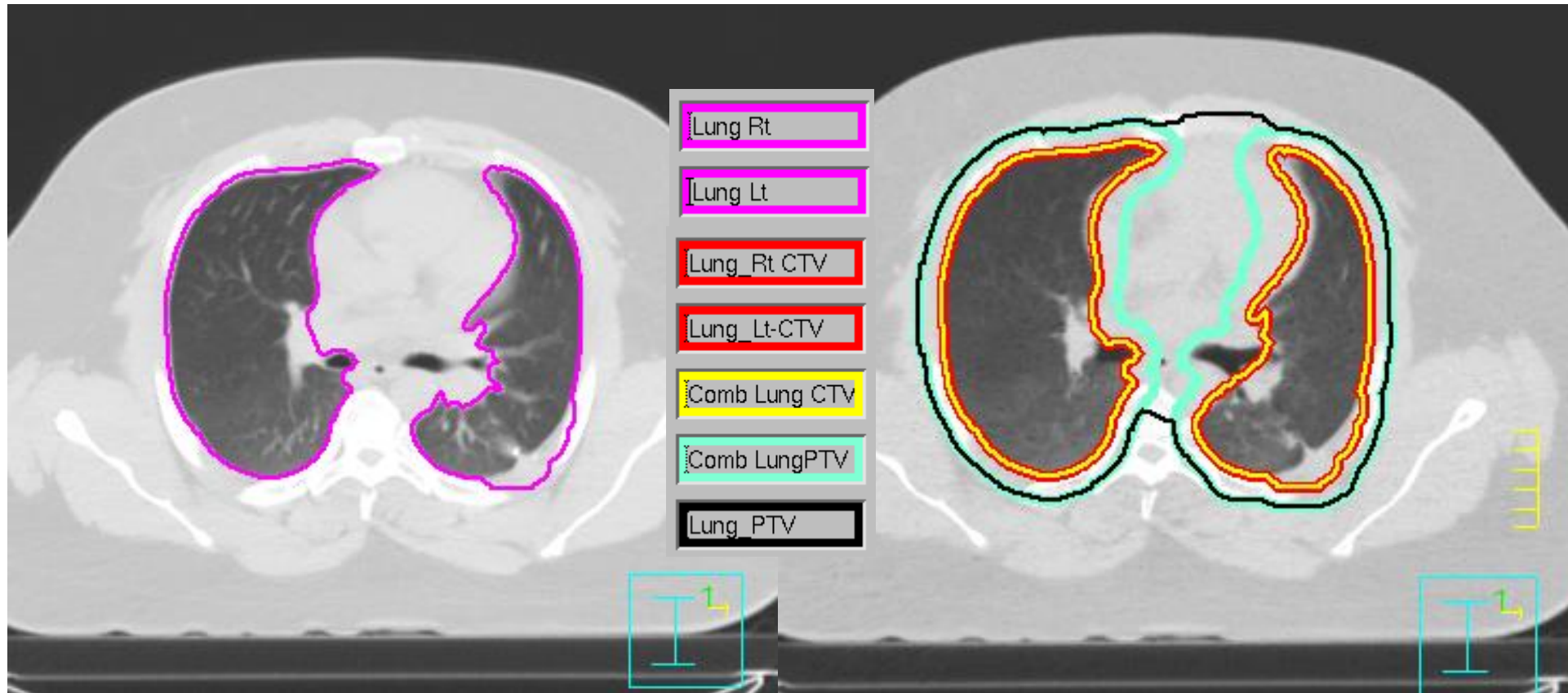
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CTV, PTV

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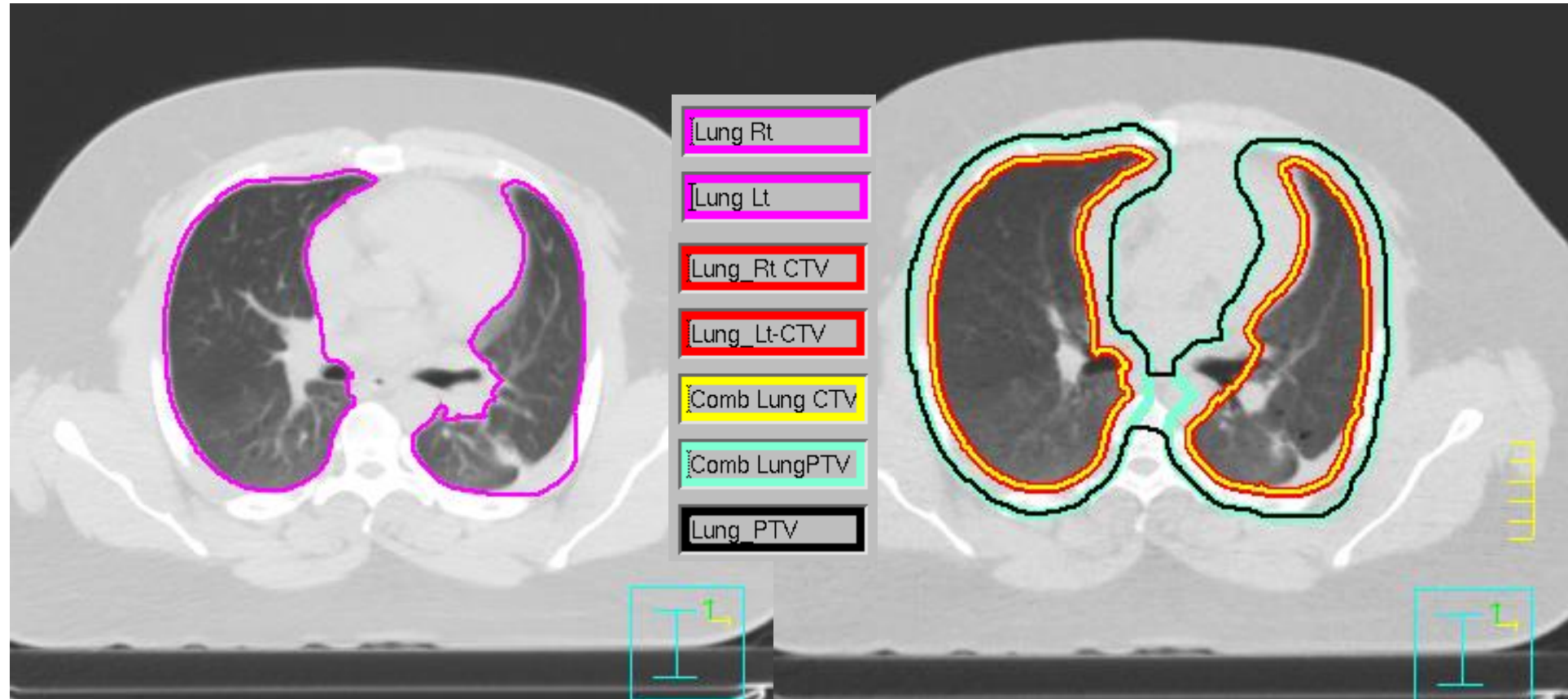
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CTV, PTV

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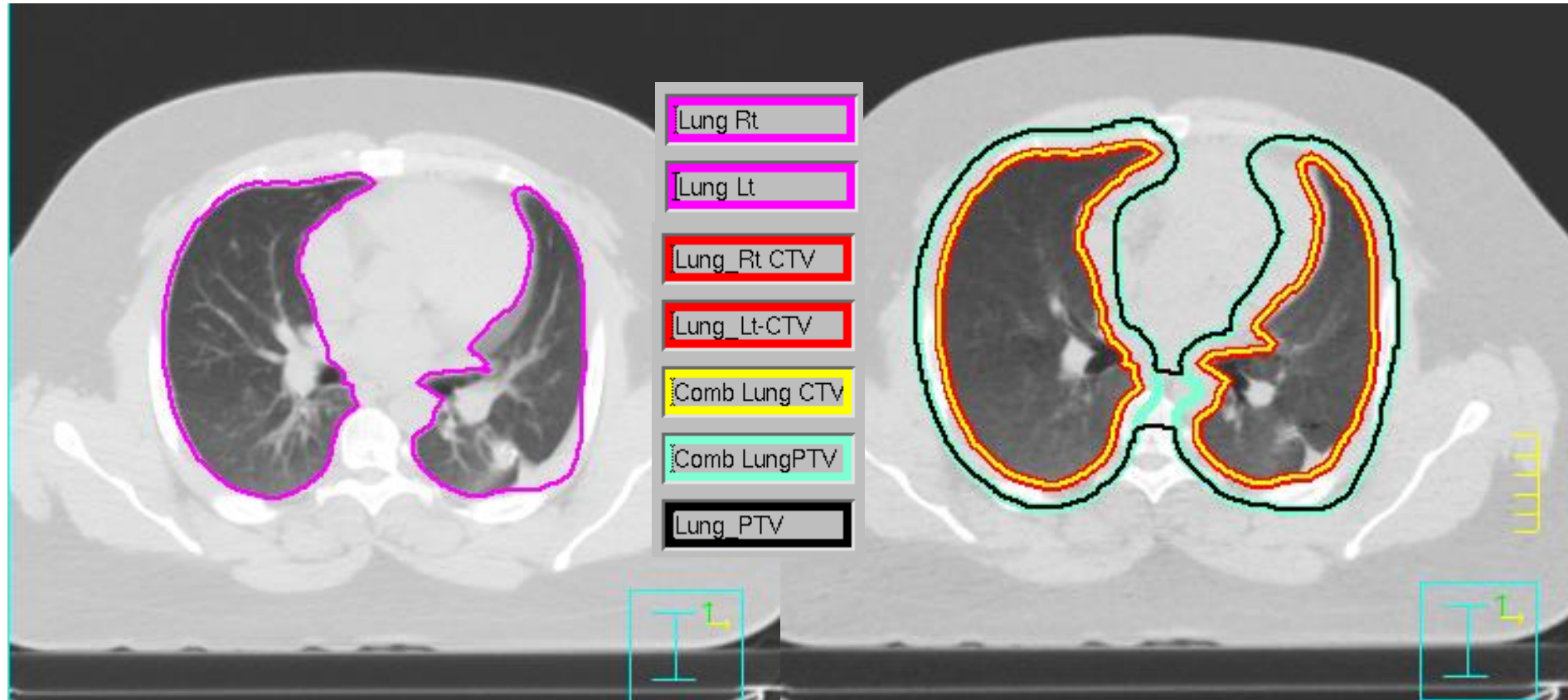
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CTV, PTV

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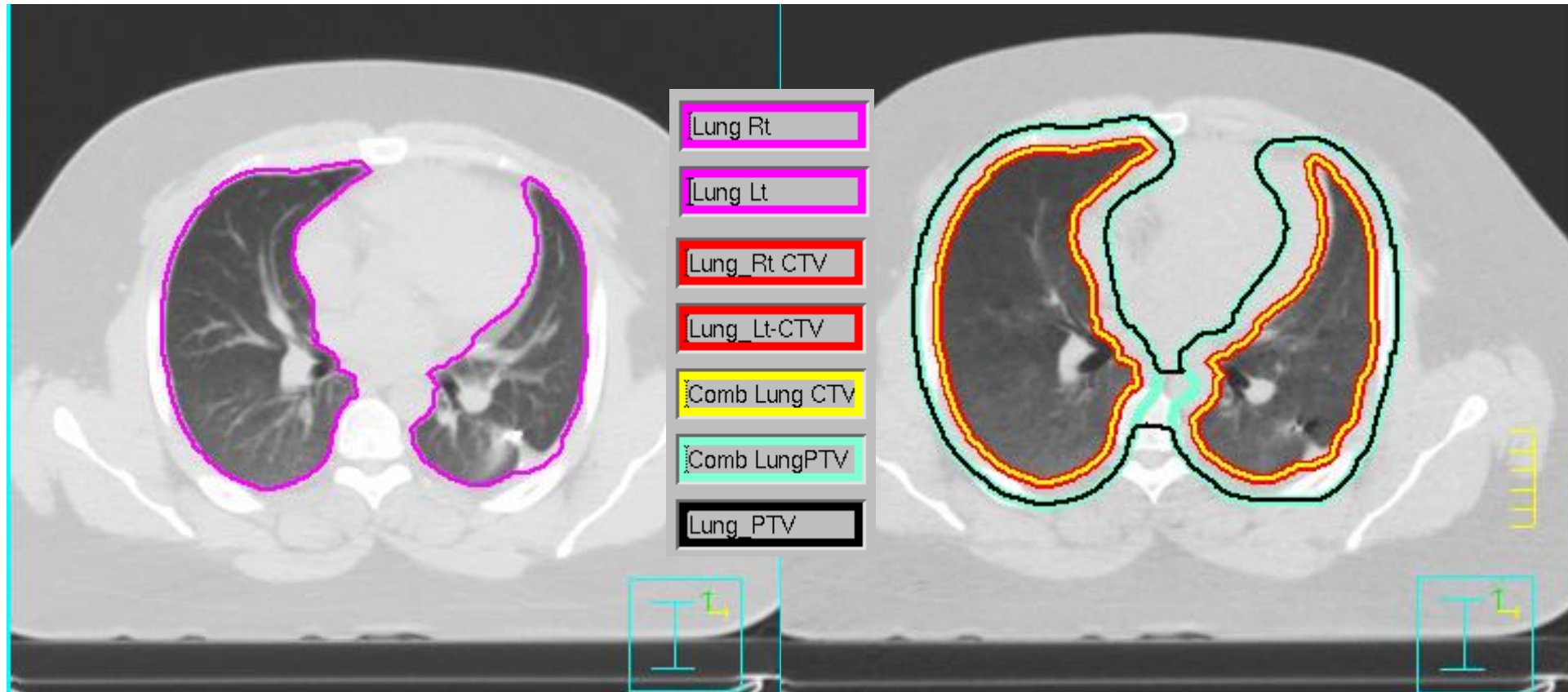
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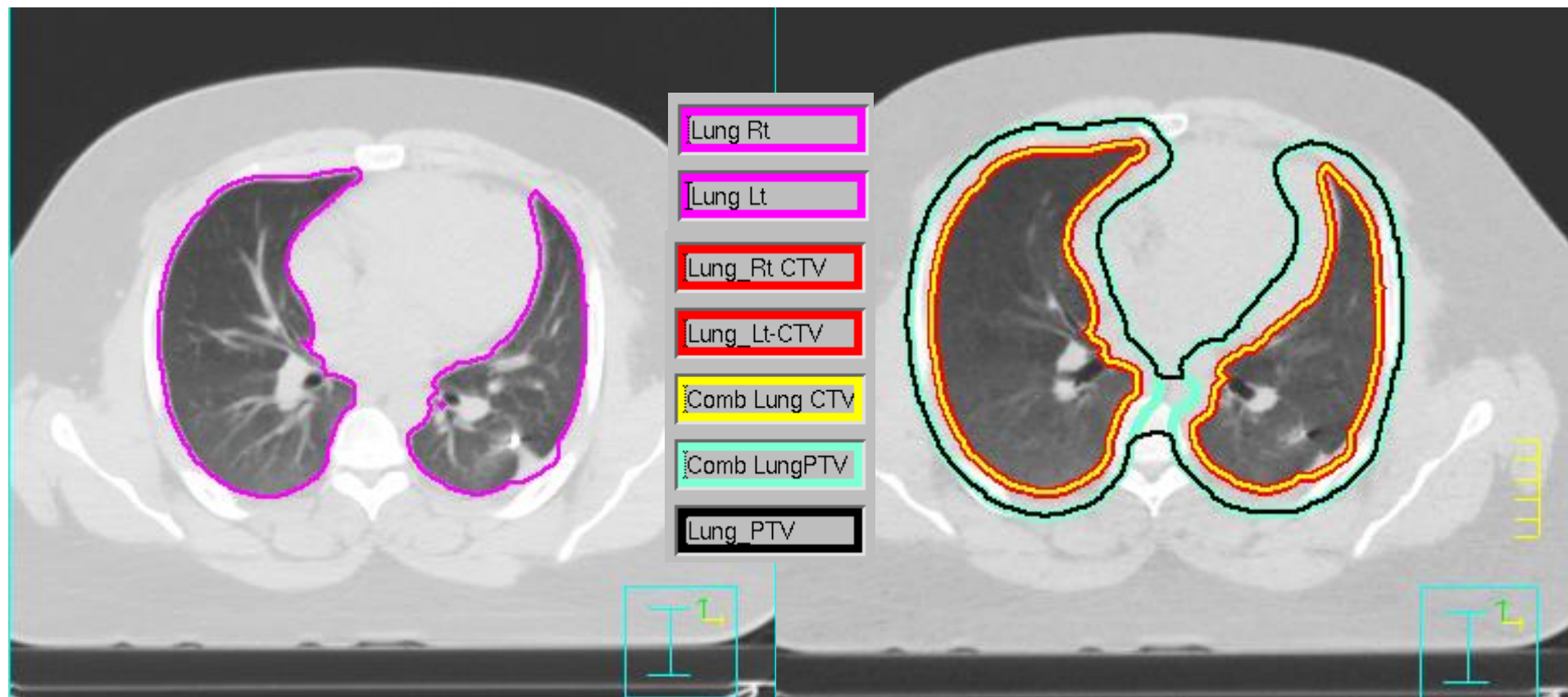
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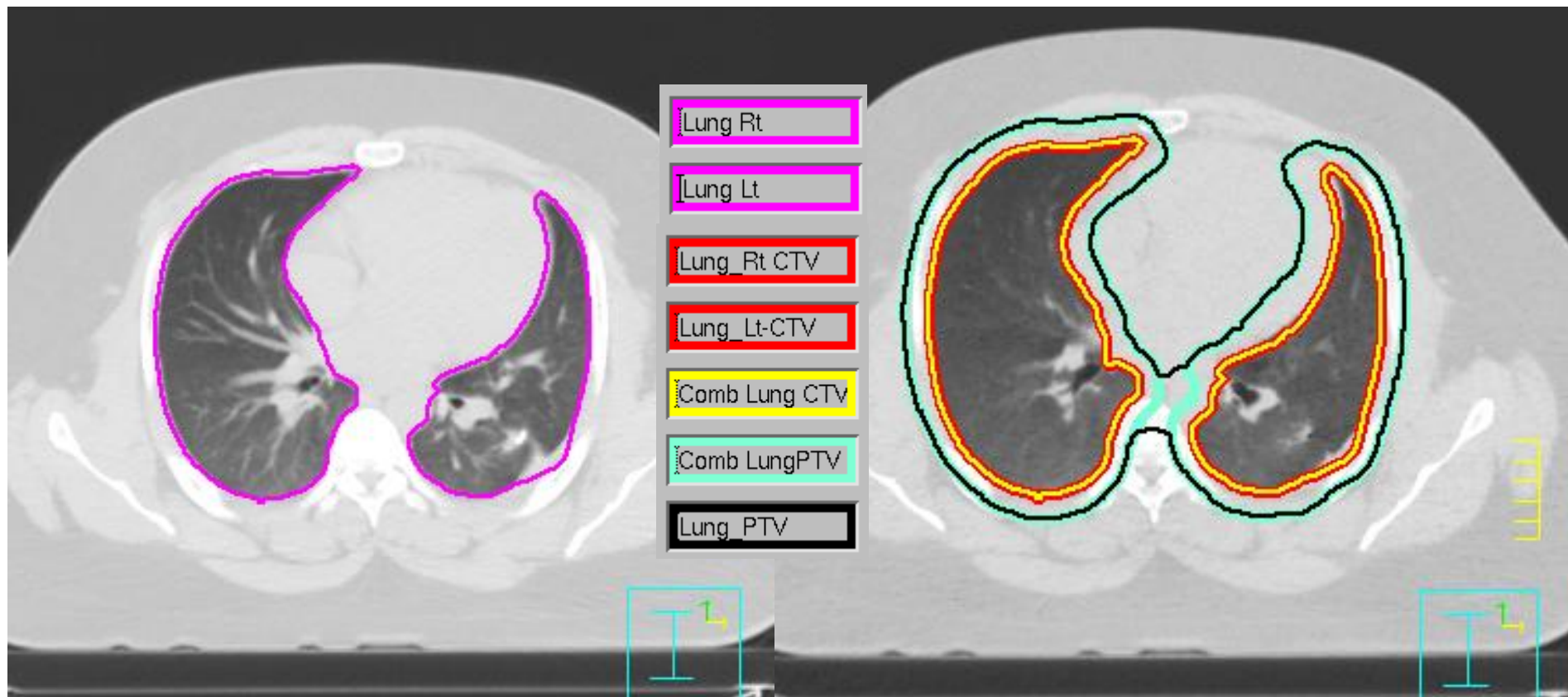
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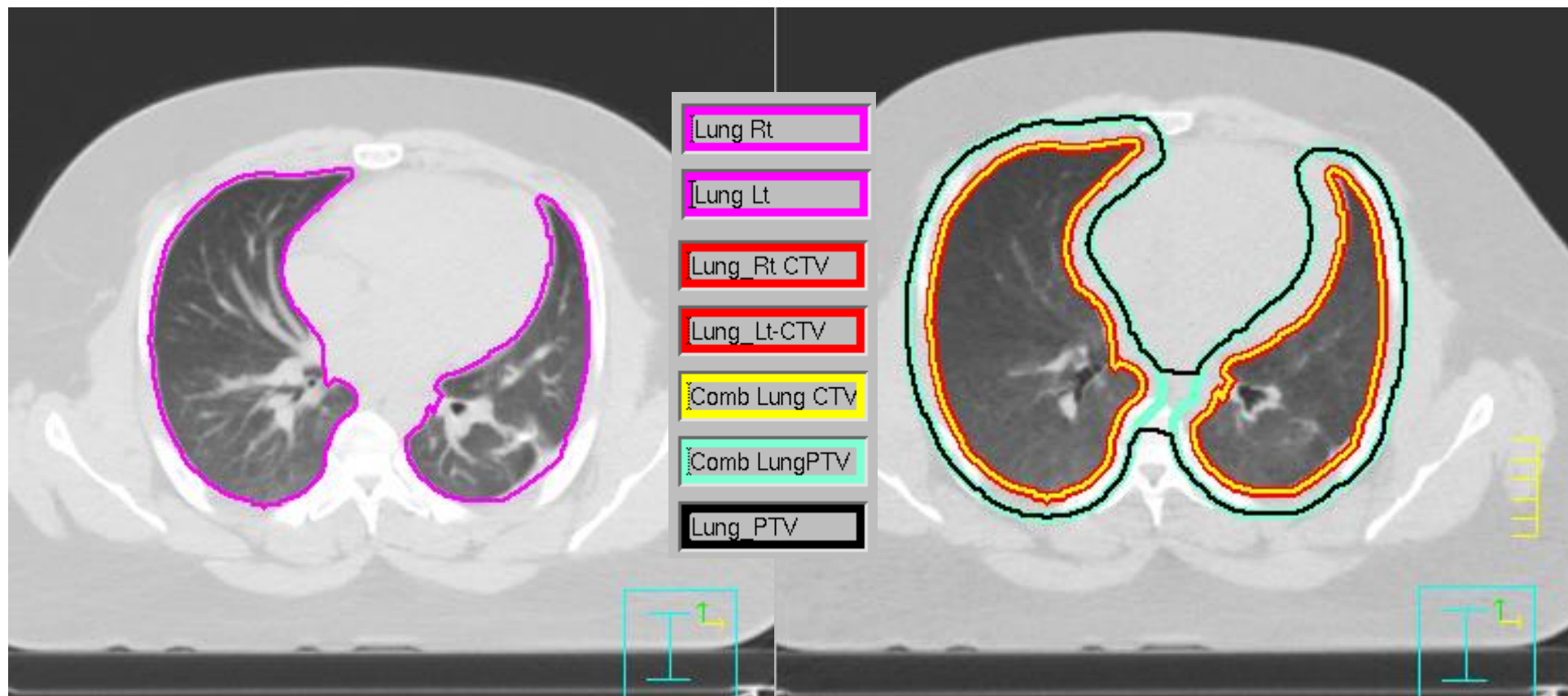
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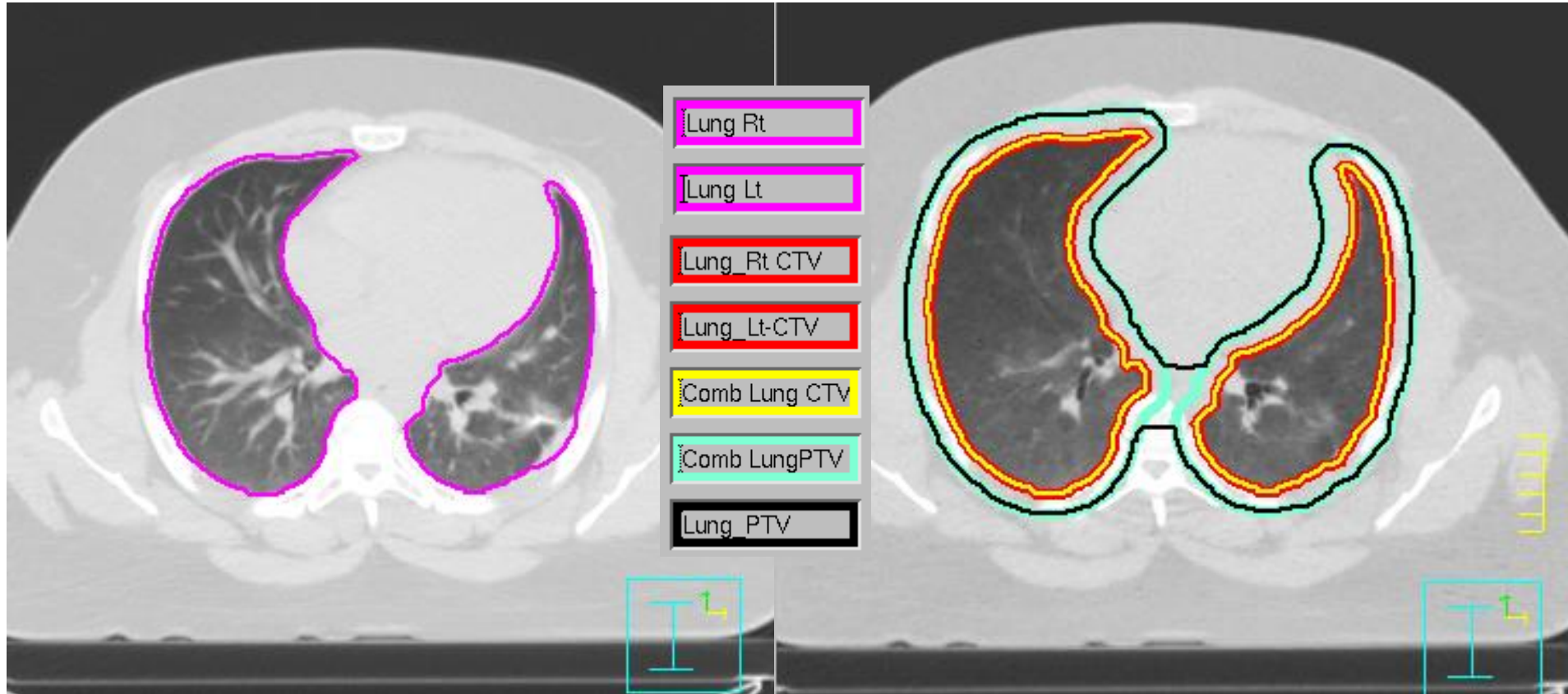
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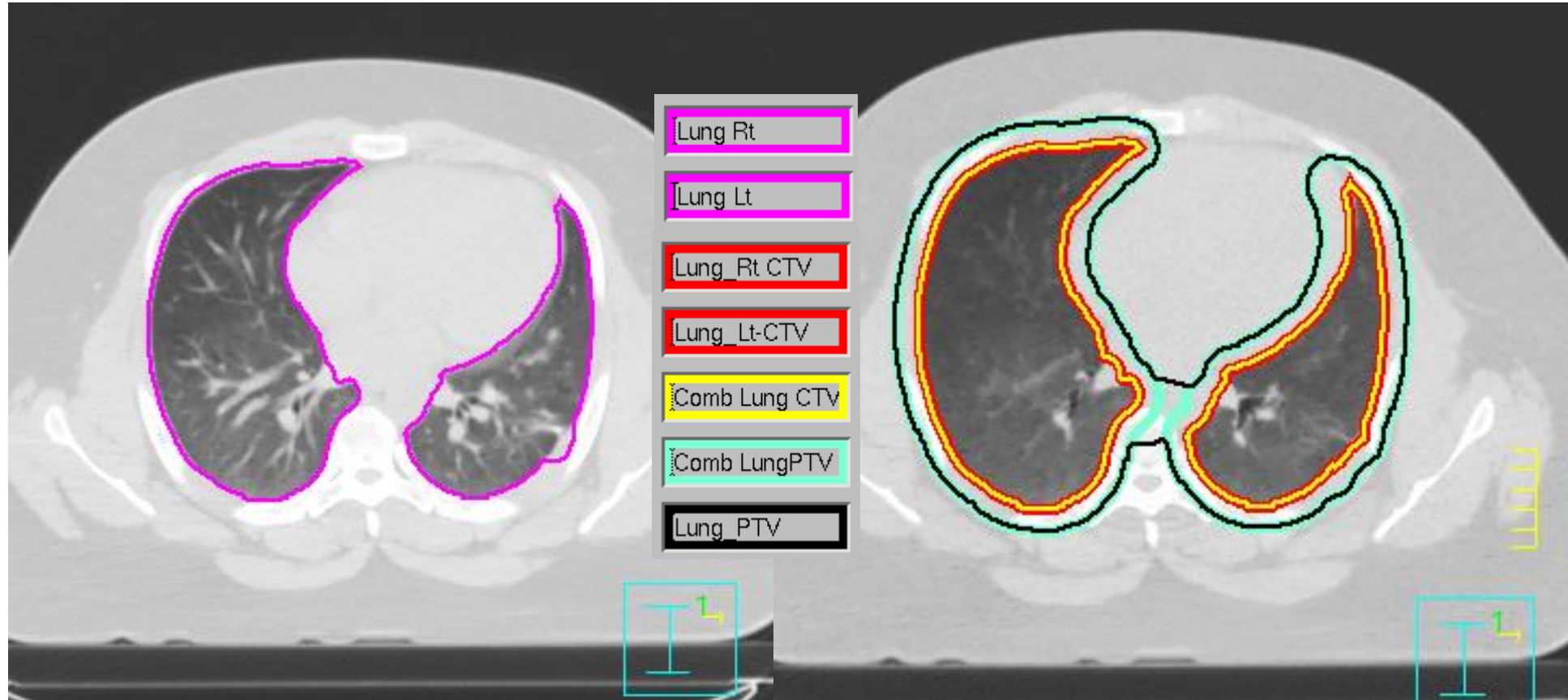
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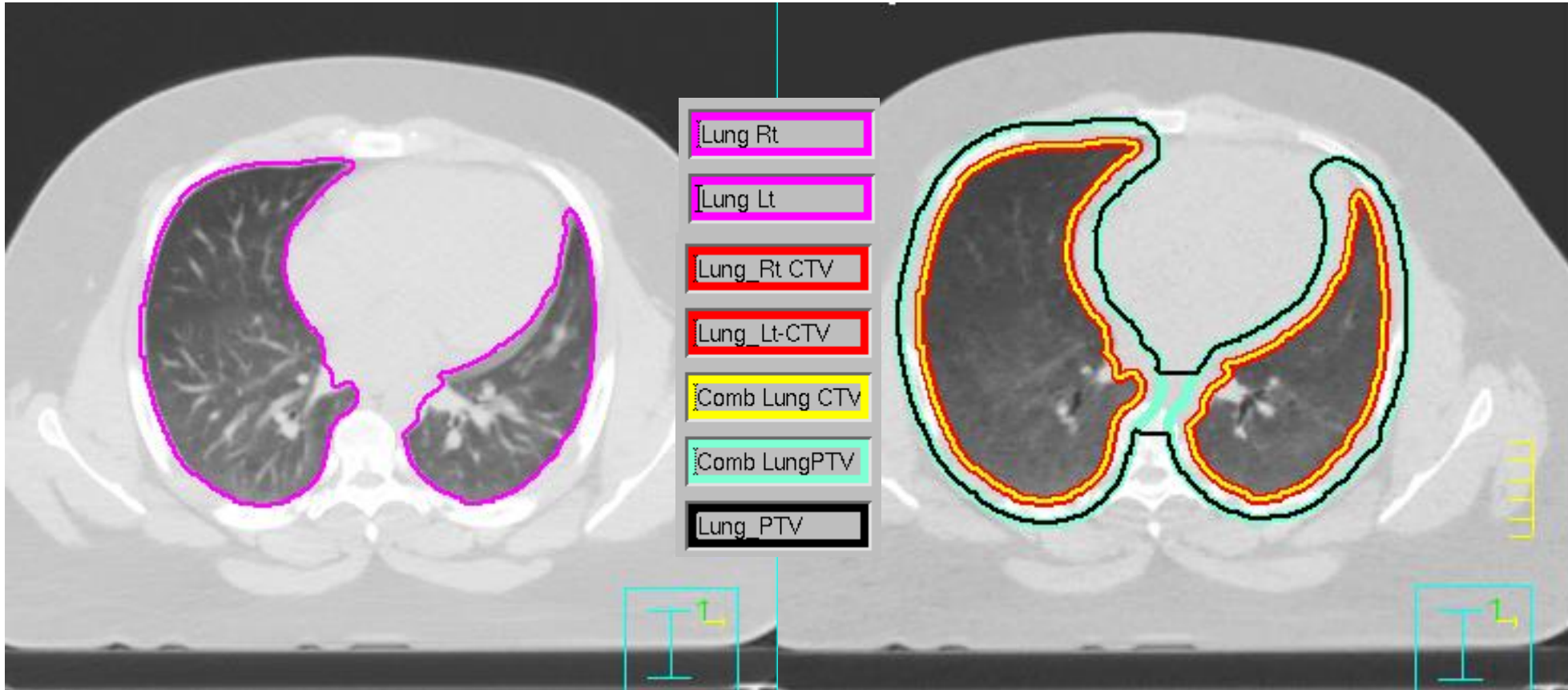
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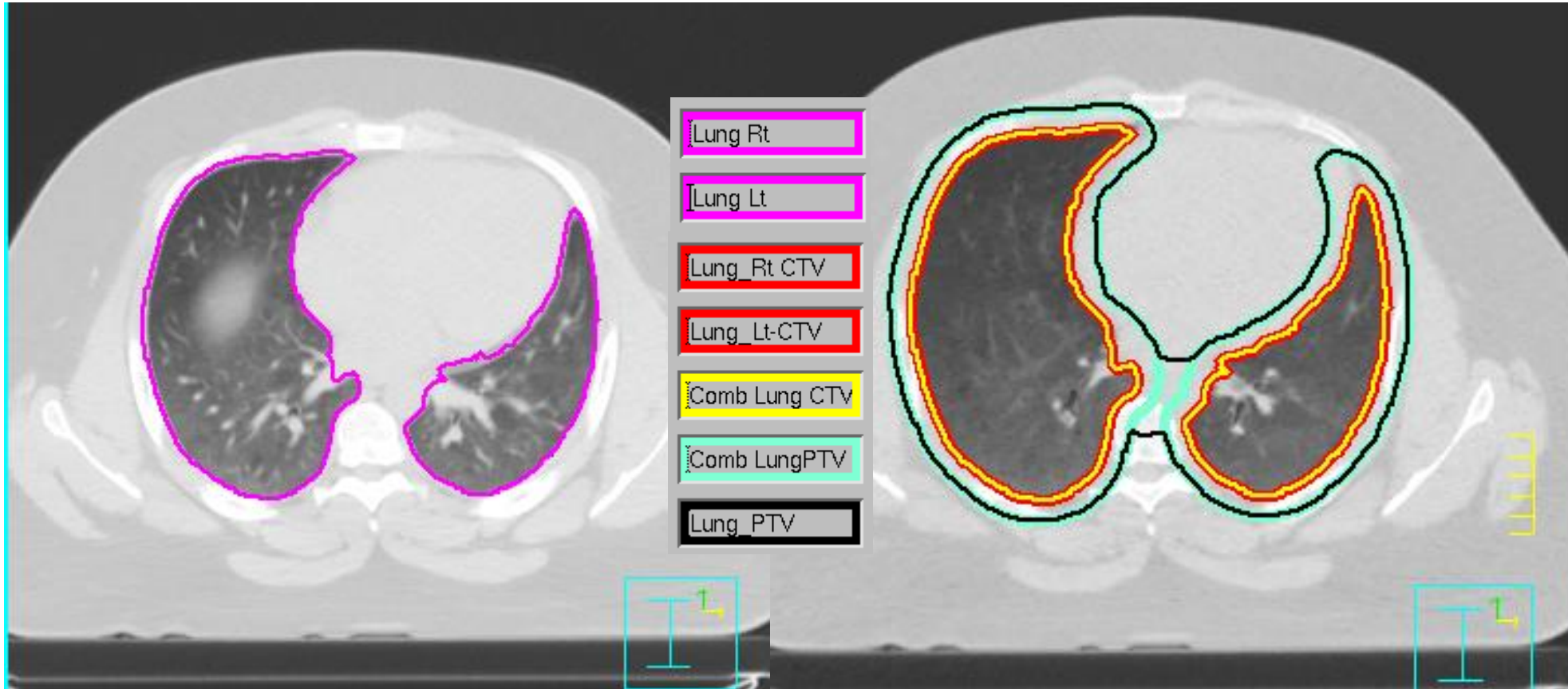
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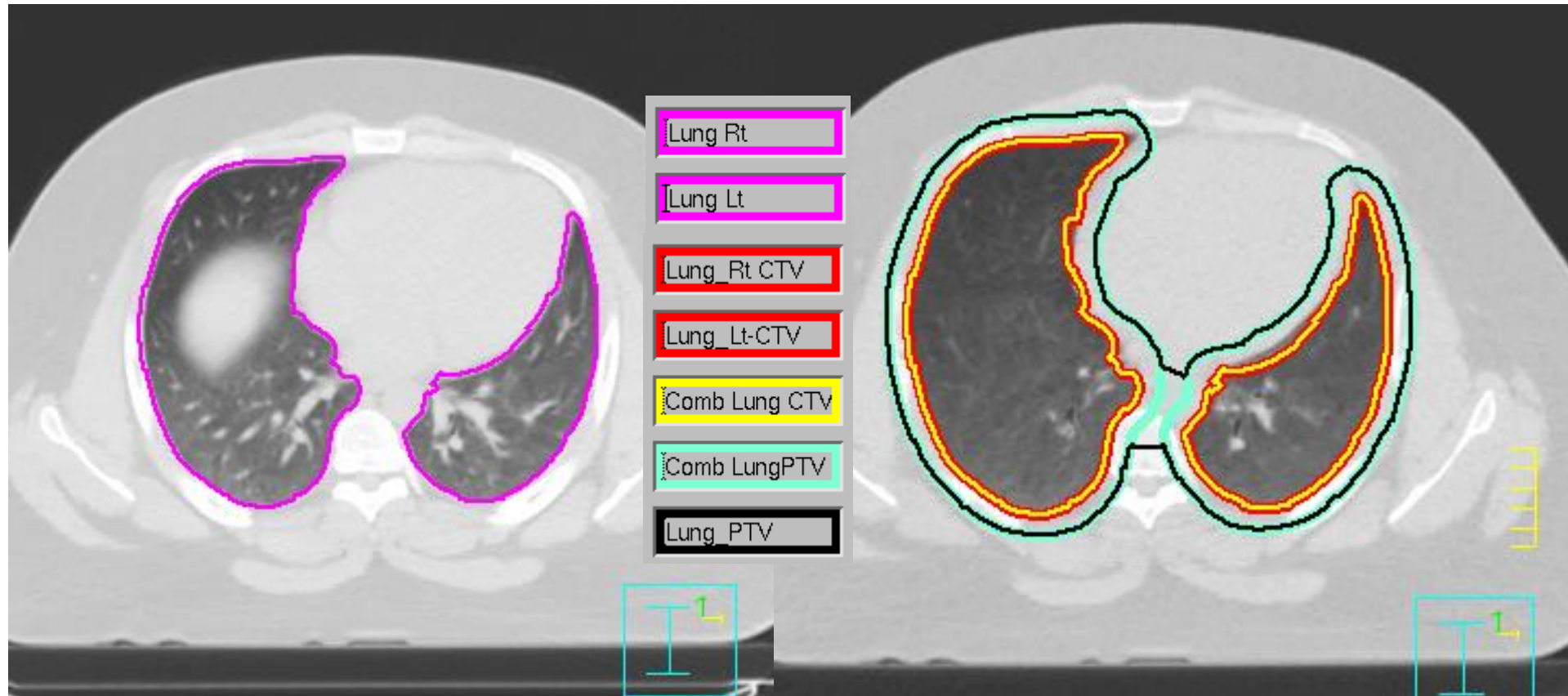
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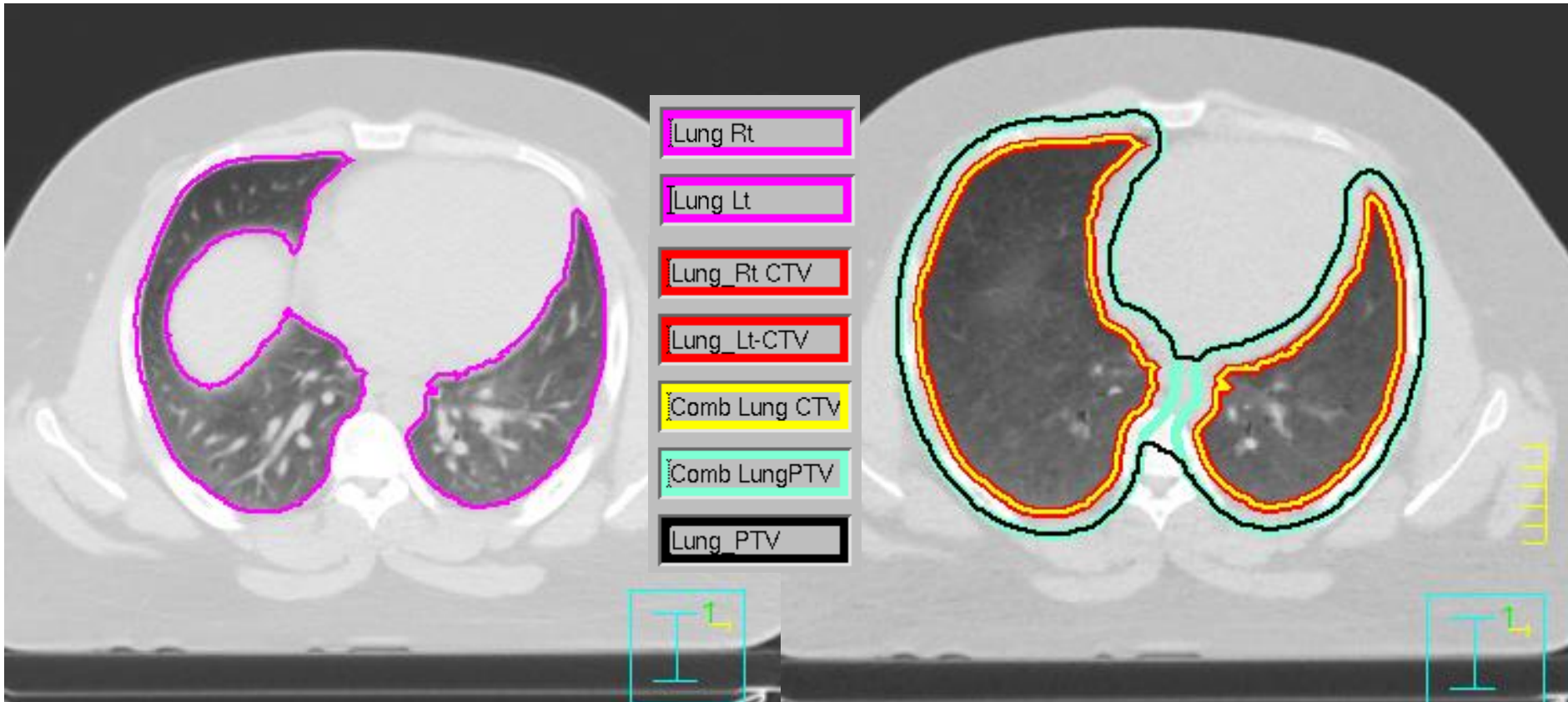
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Planning Scan

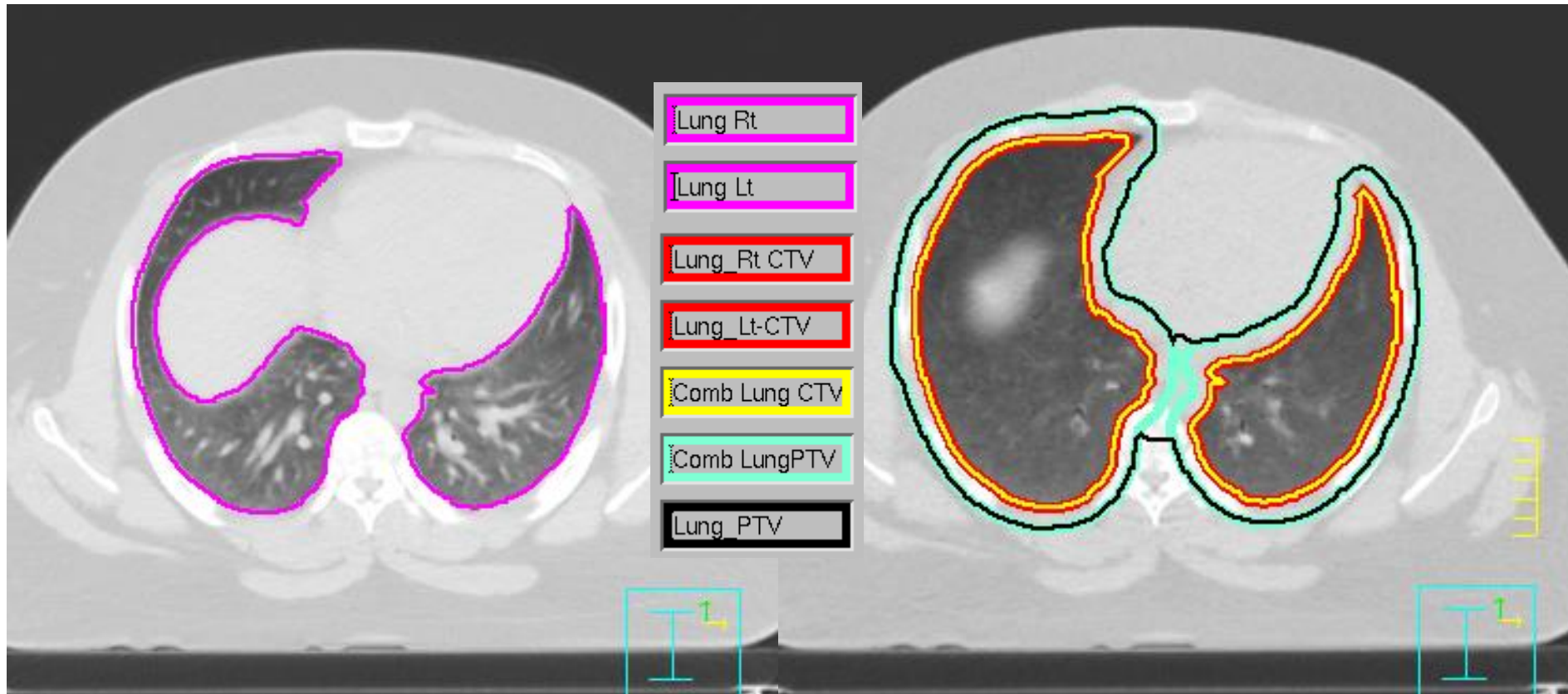
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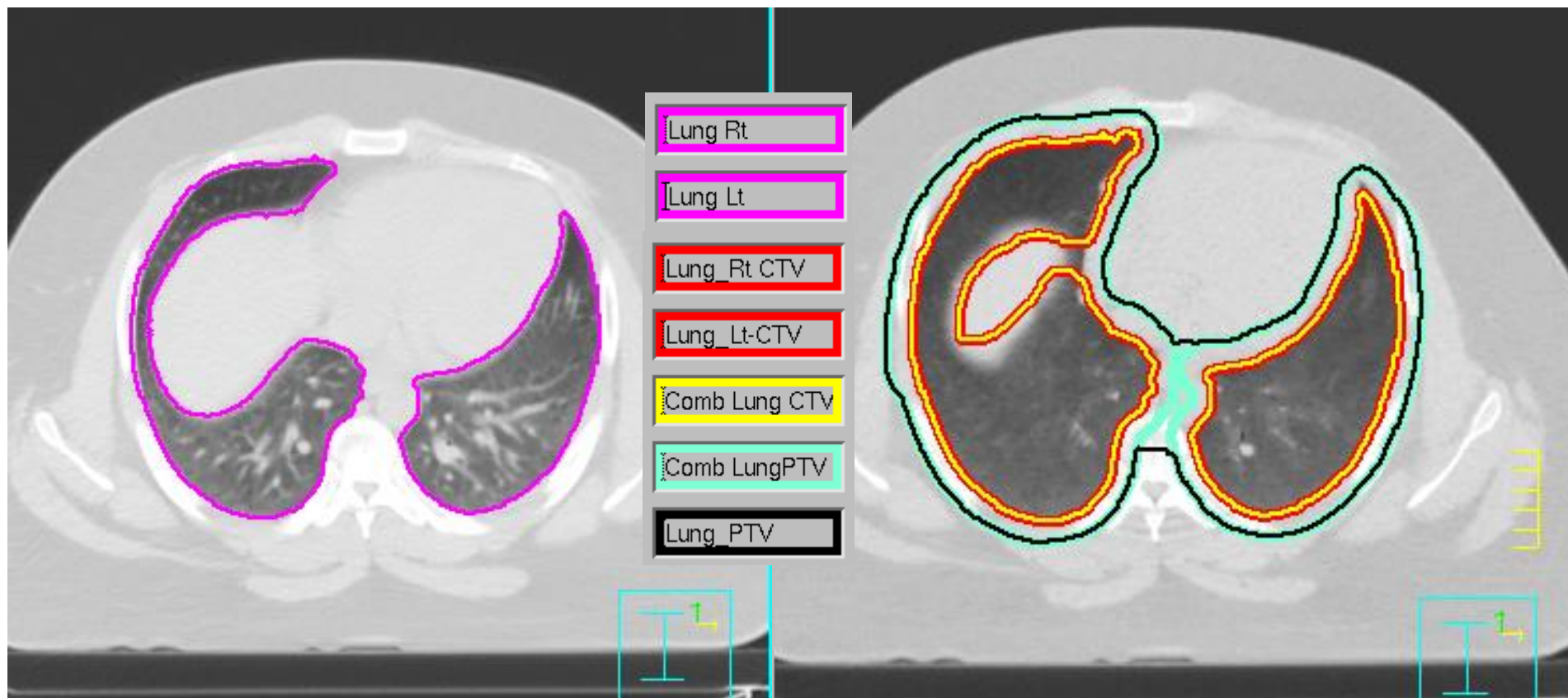
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CTV, PTV

Planning Scan

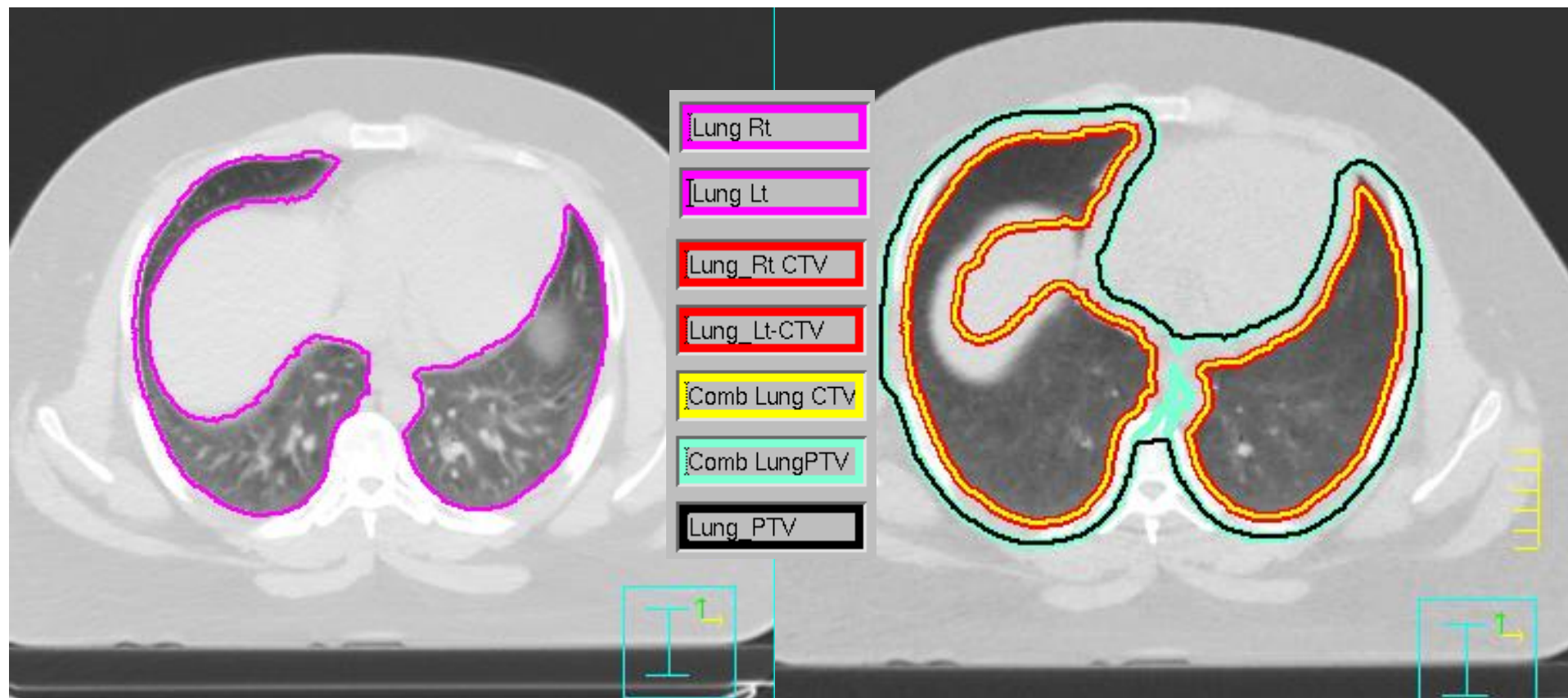
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CTV, PTV

Planning Scan

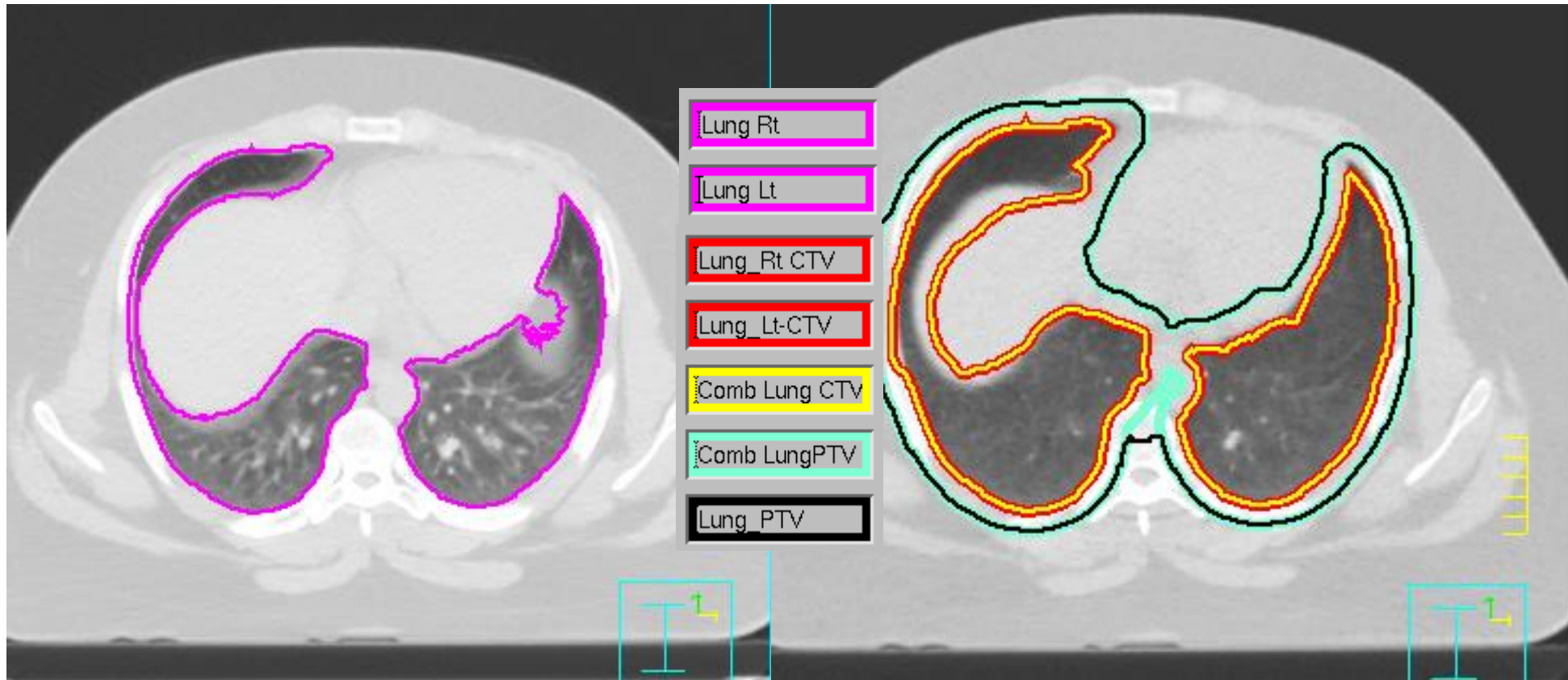
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CTV, PTV

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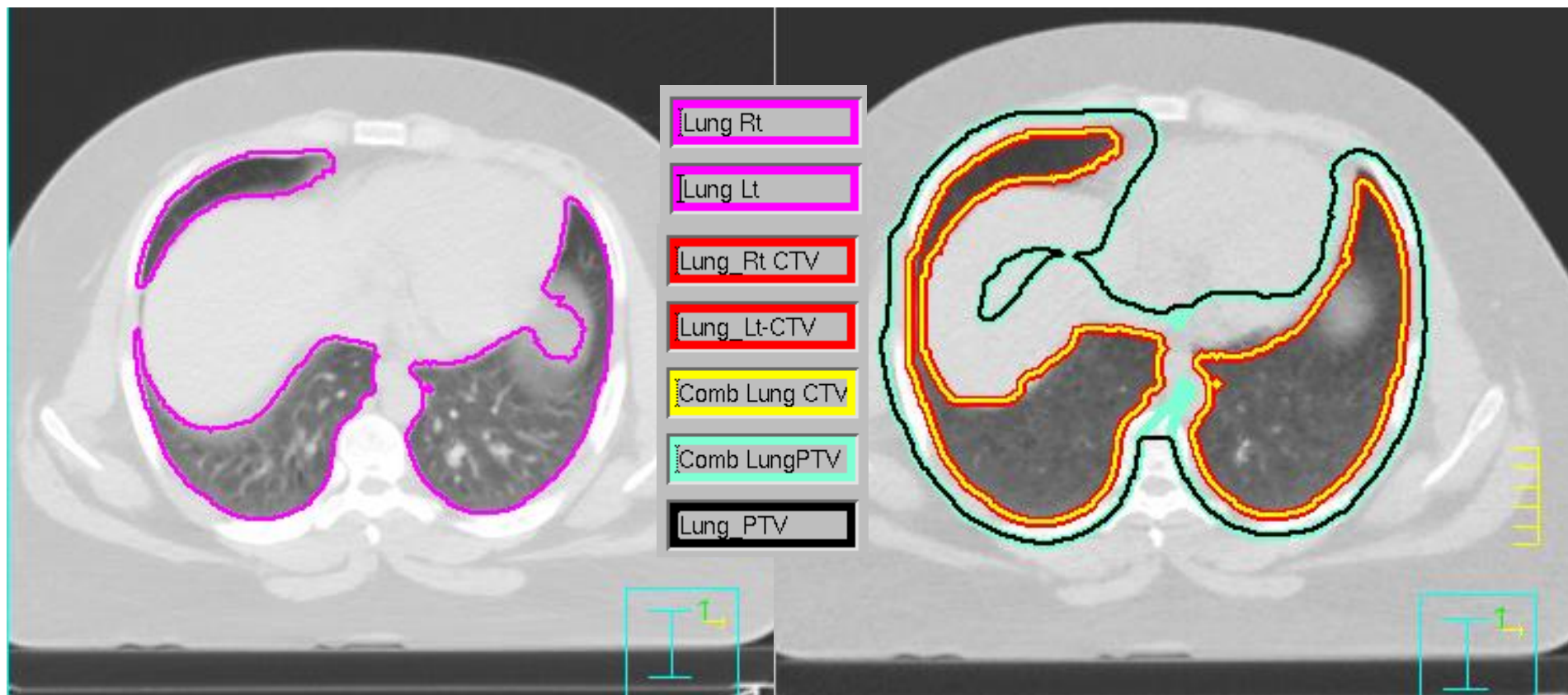
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CTV, PTV

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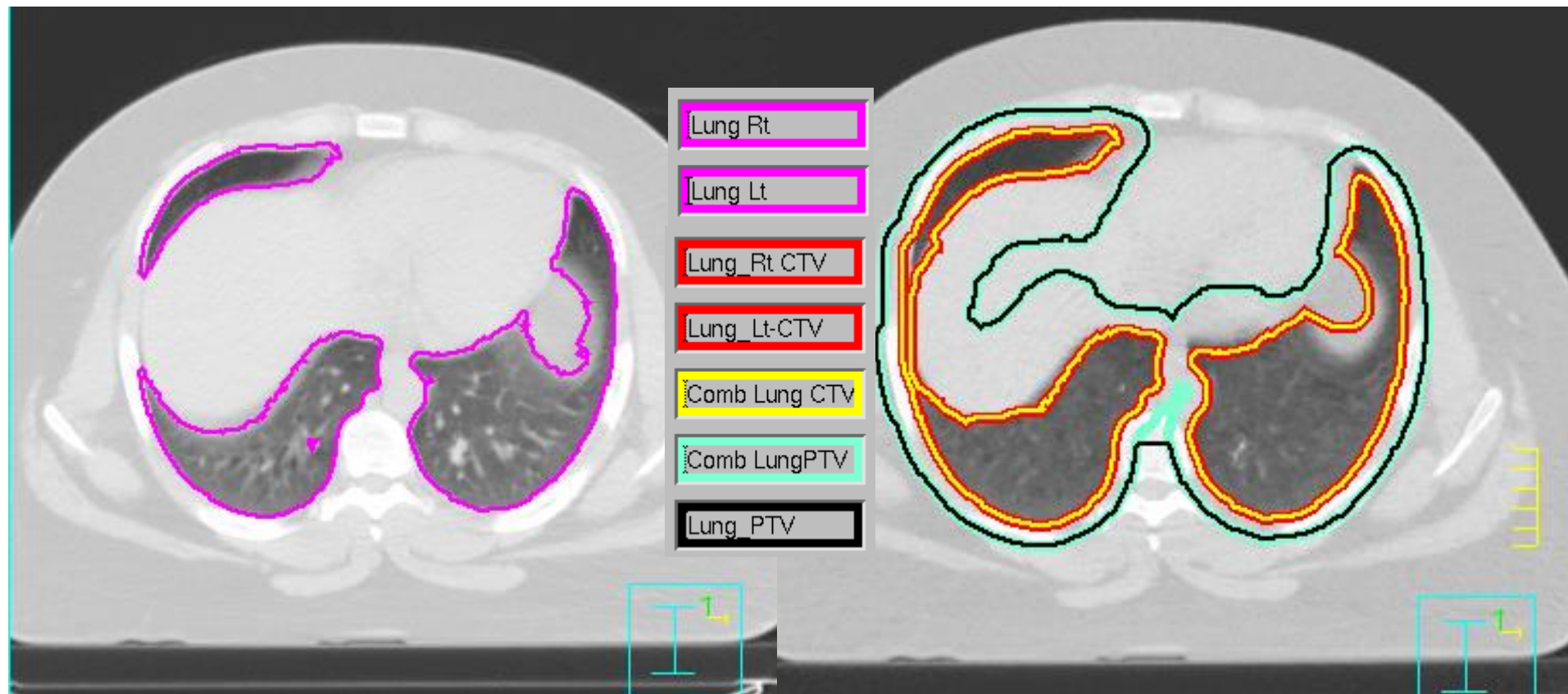
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CTV, PTV

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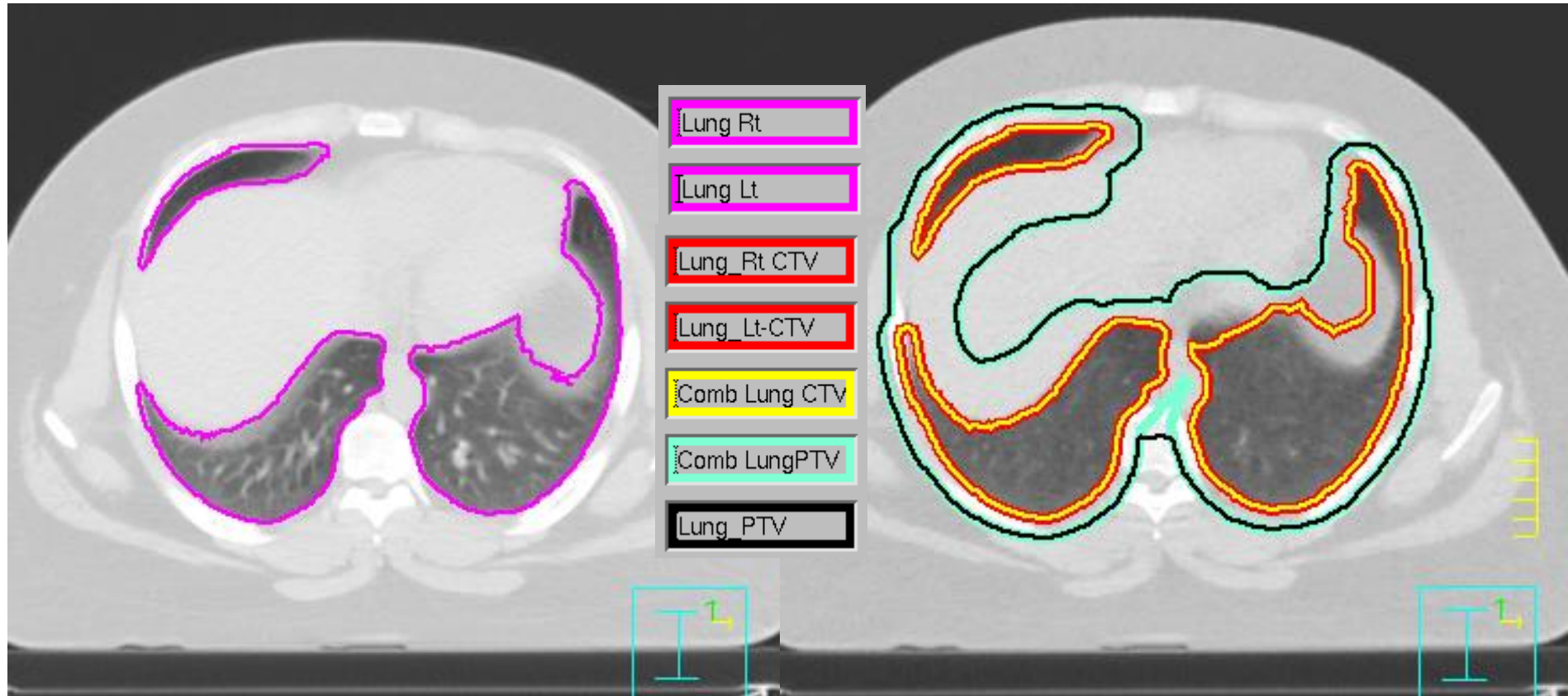
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CTV, PTV

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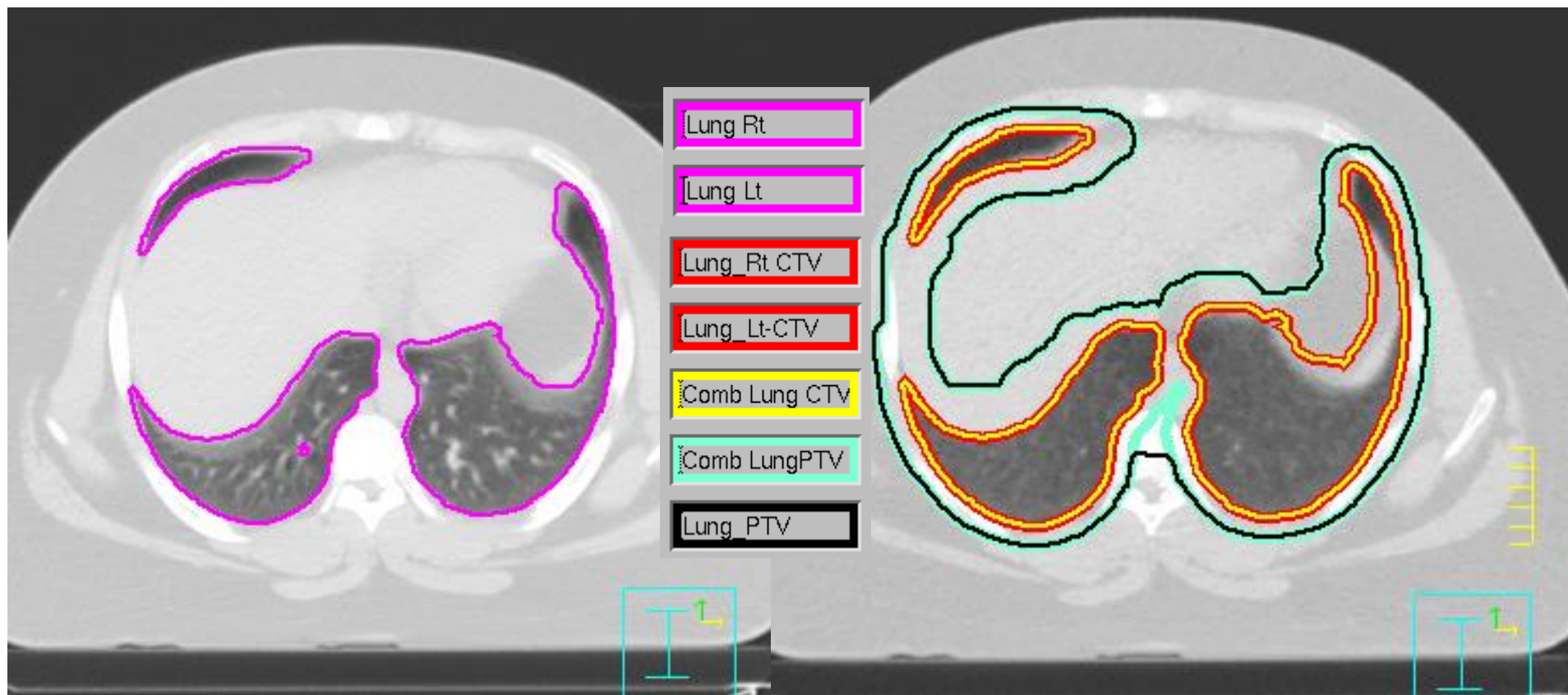
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CTV, PTV

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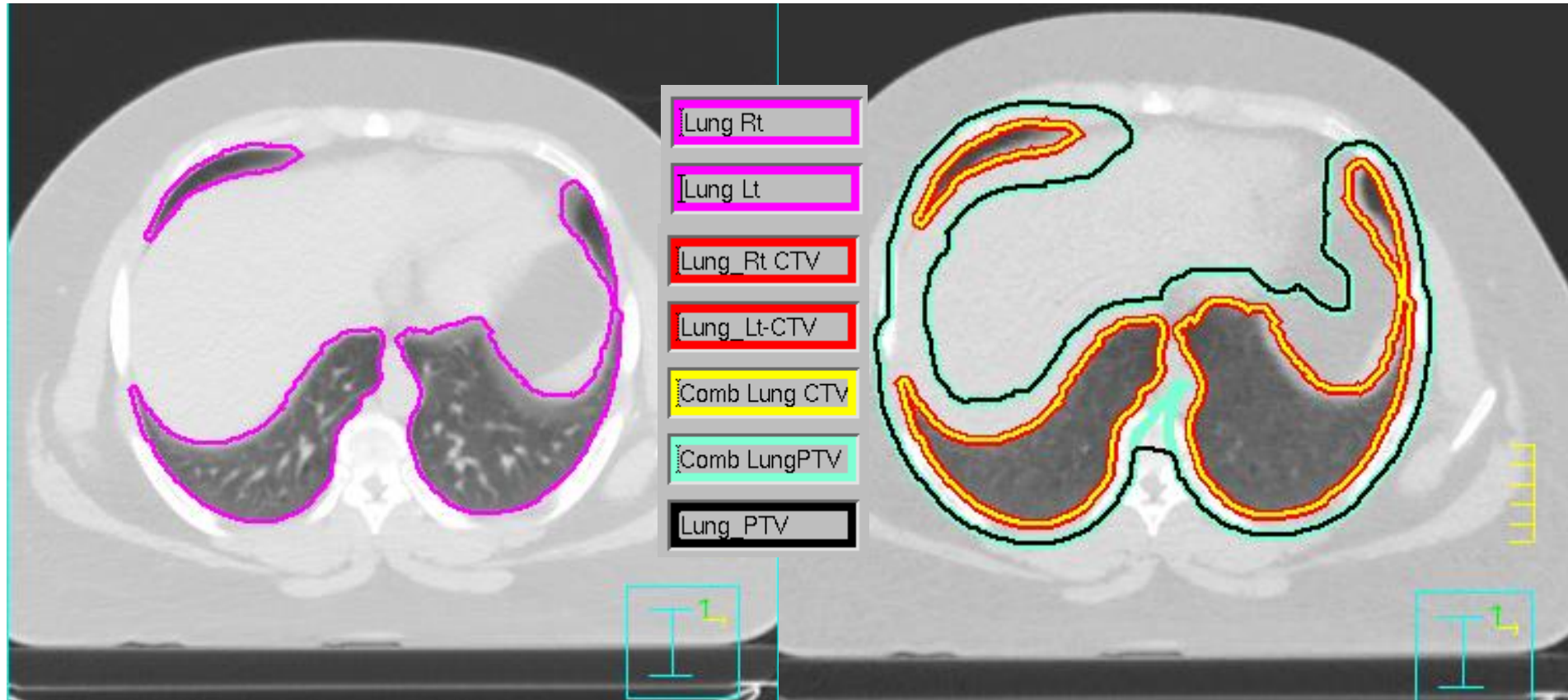
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CTV, PTV

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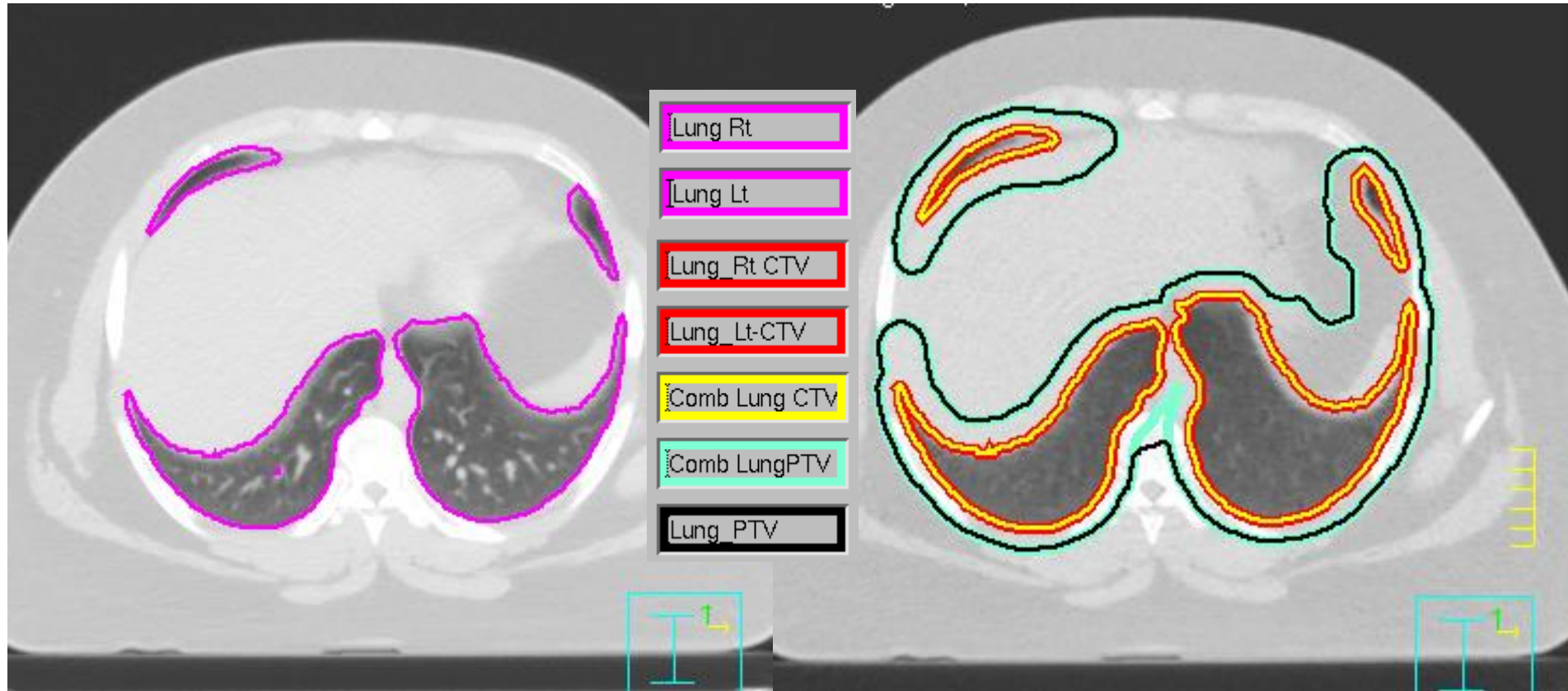
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CTV, PTV

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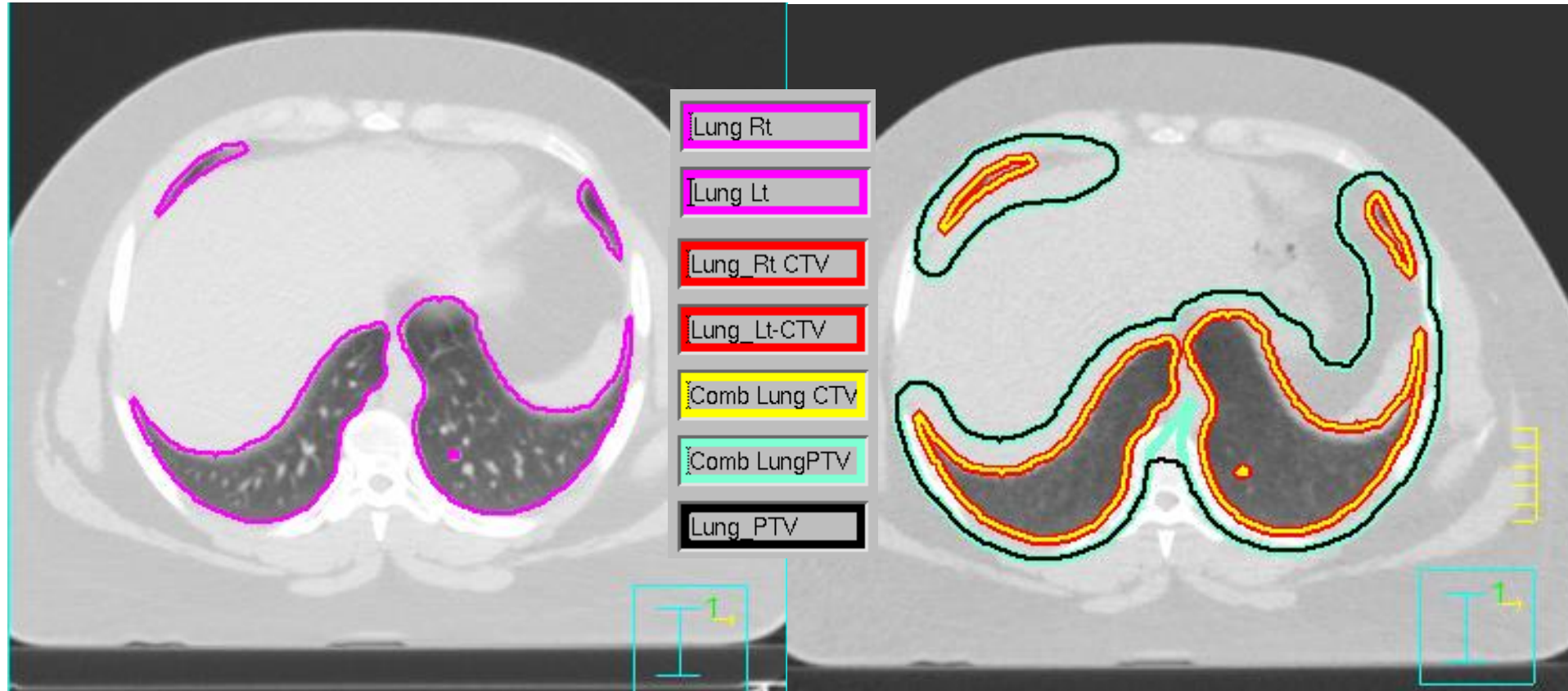
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CTV, PTV

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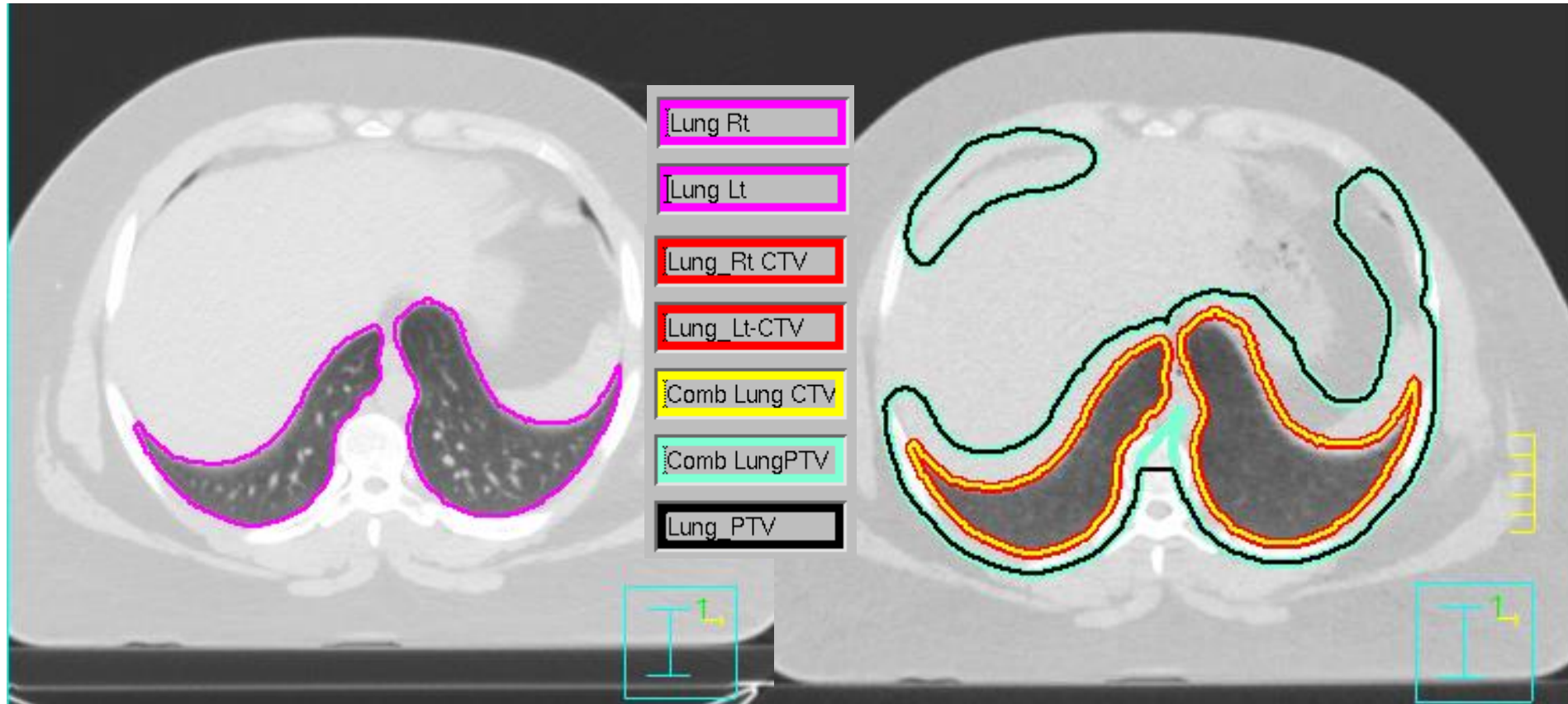
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CTV, PTV

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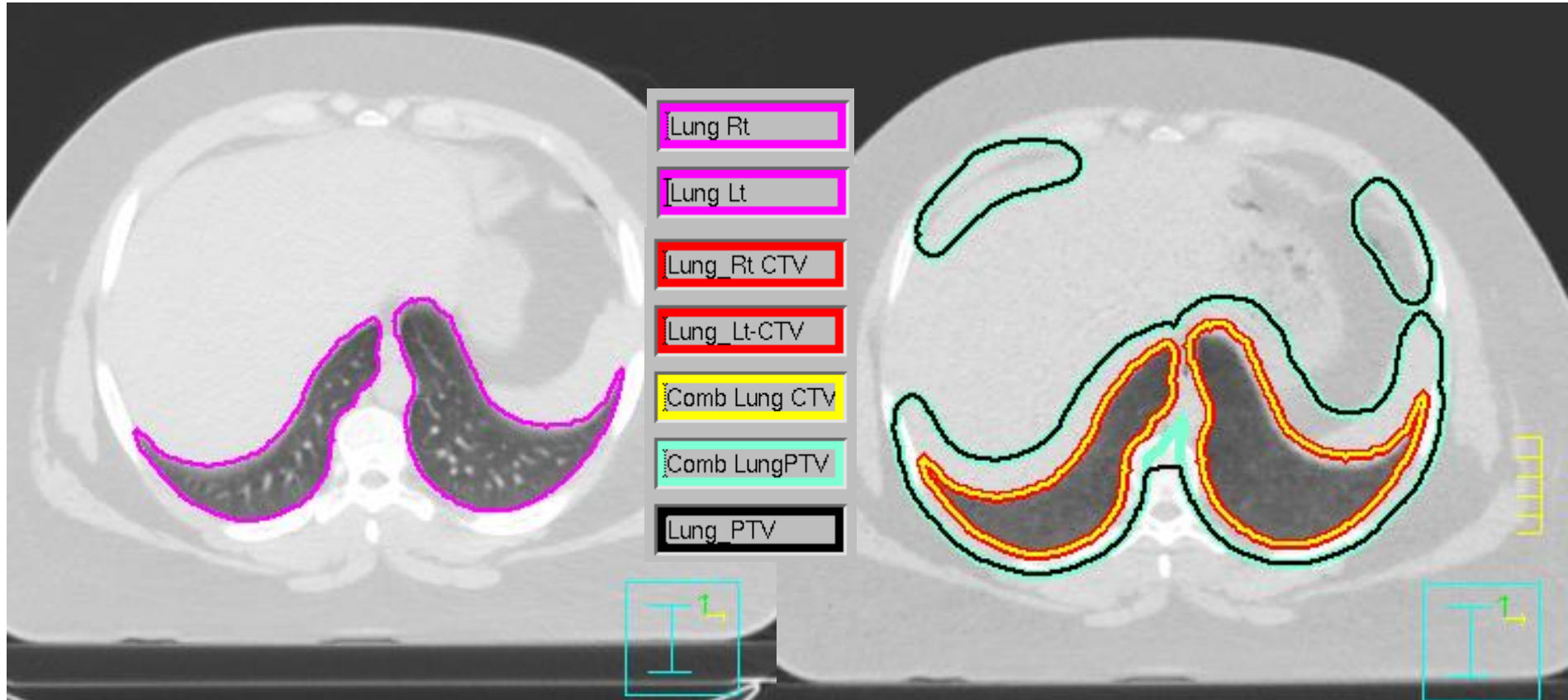
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CTV, PTV

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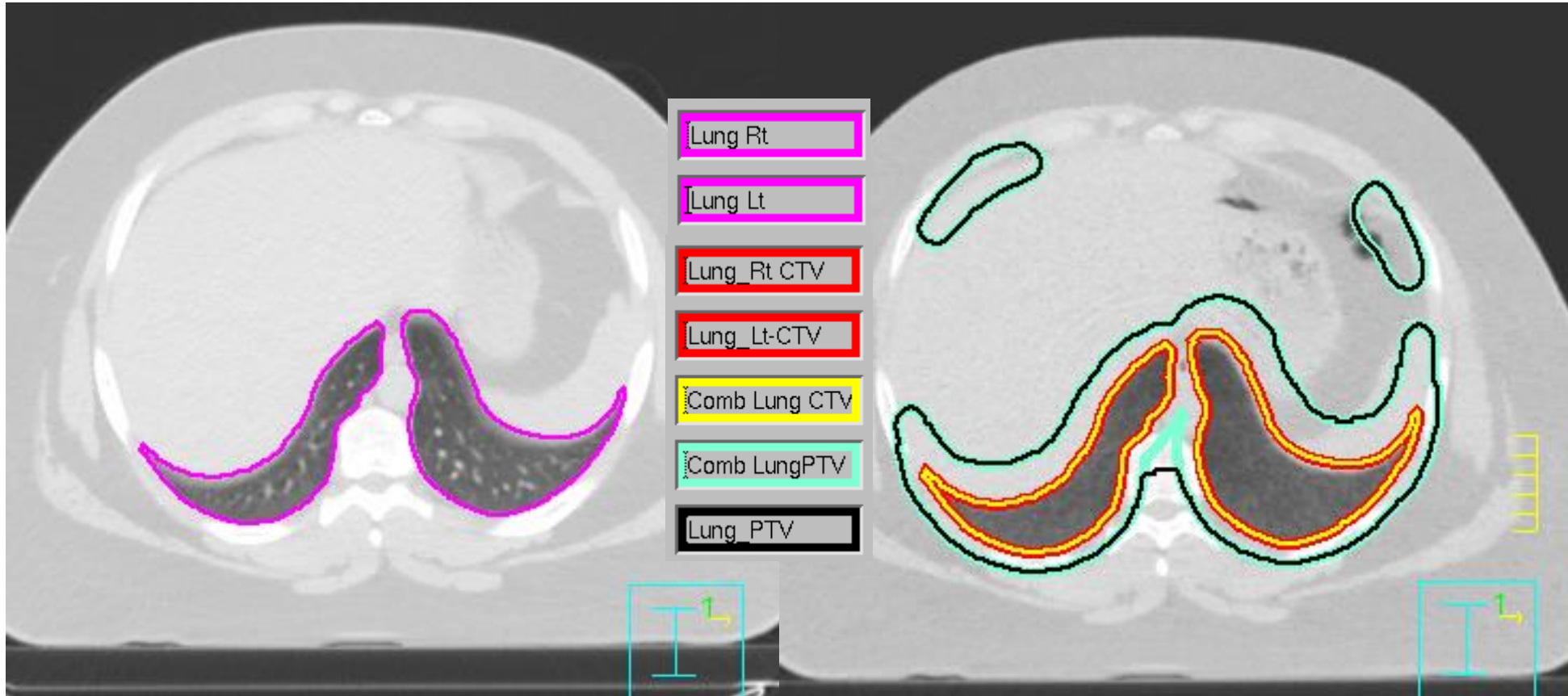
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CTV, PTV

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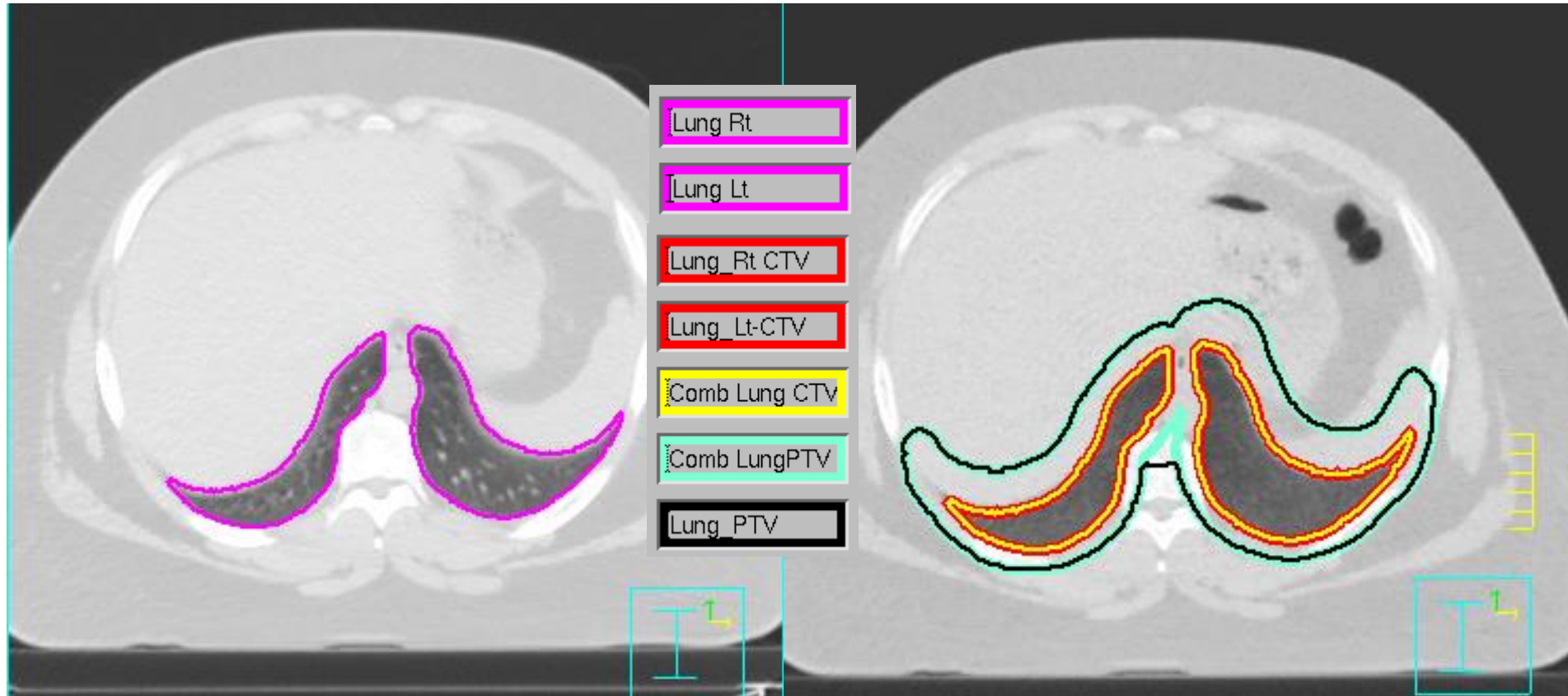
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CTV, PTV

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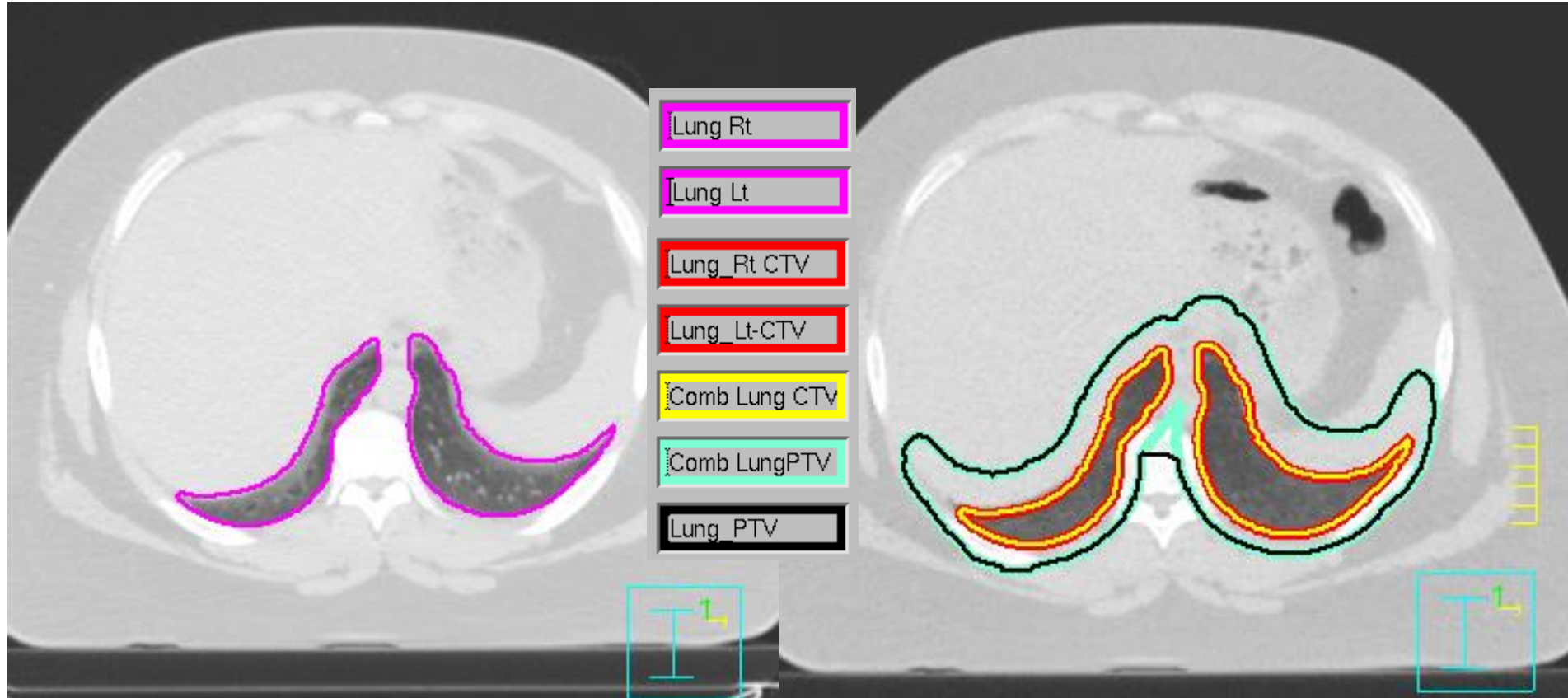
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CTV, PTV

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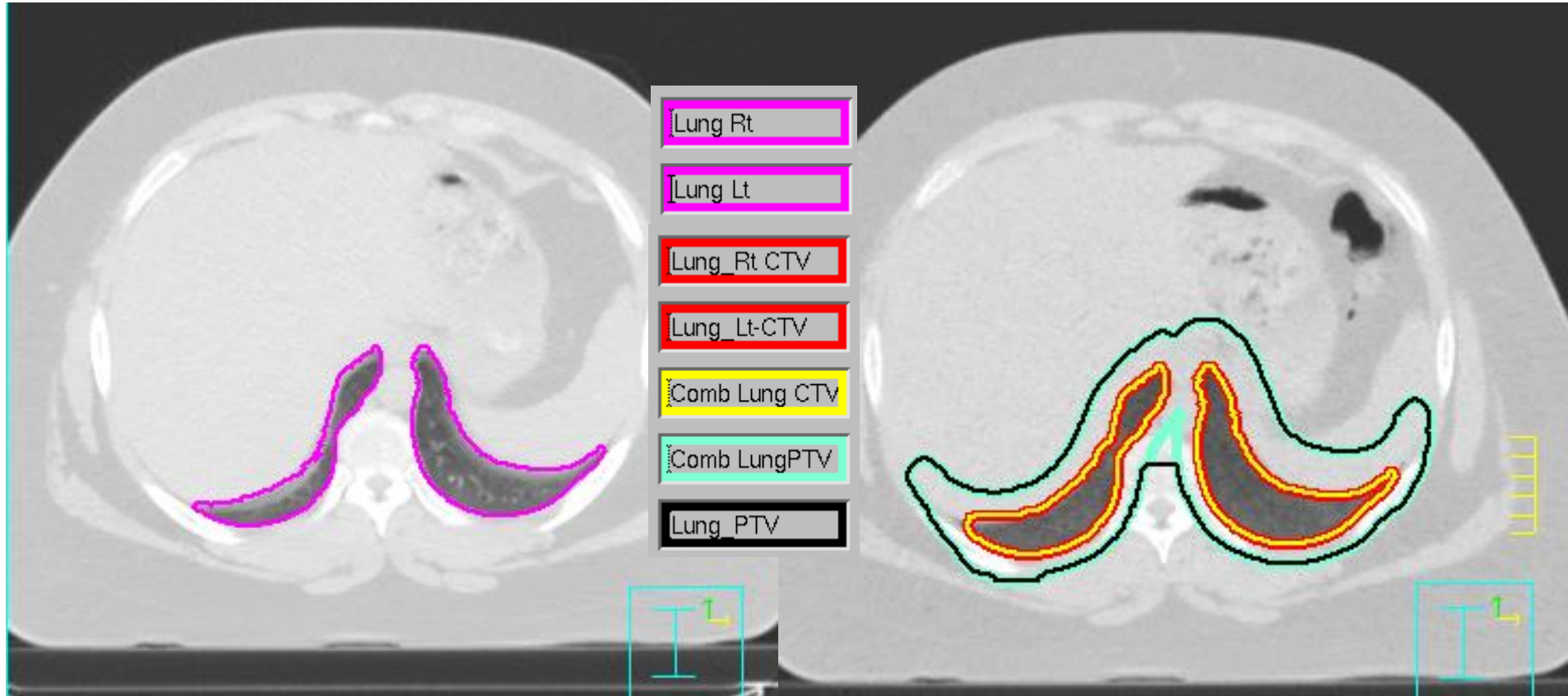
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CTV, PTV

Planning Scan

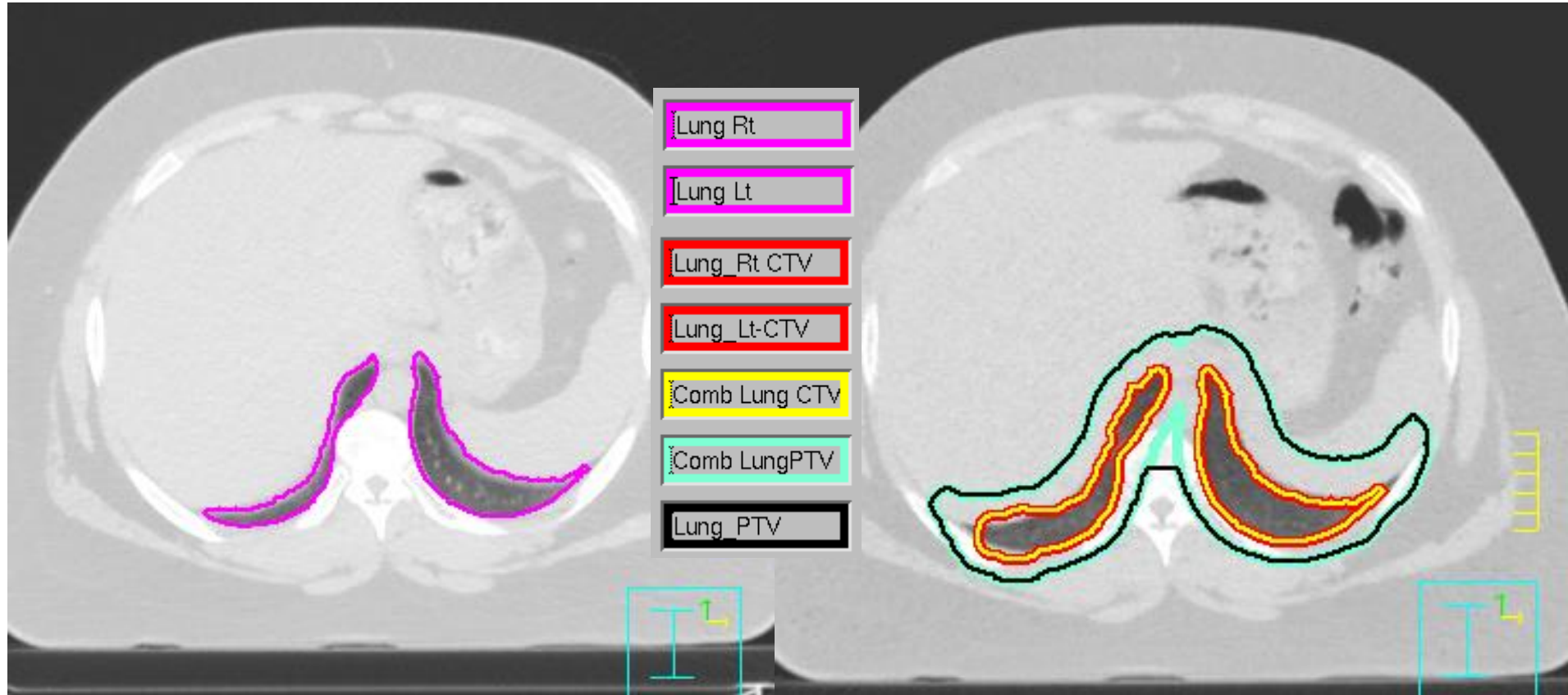
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CTV, PTV

Planning Scan

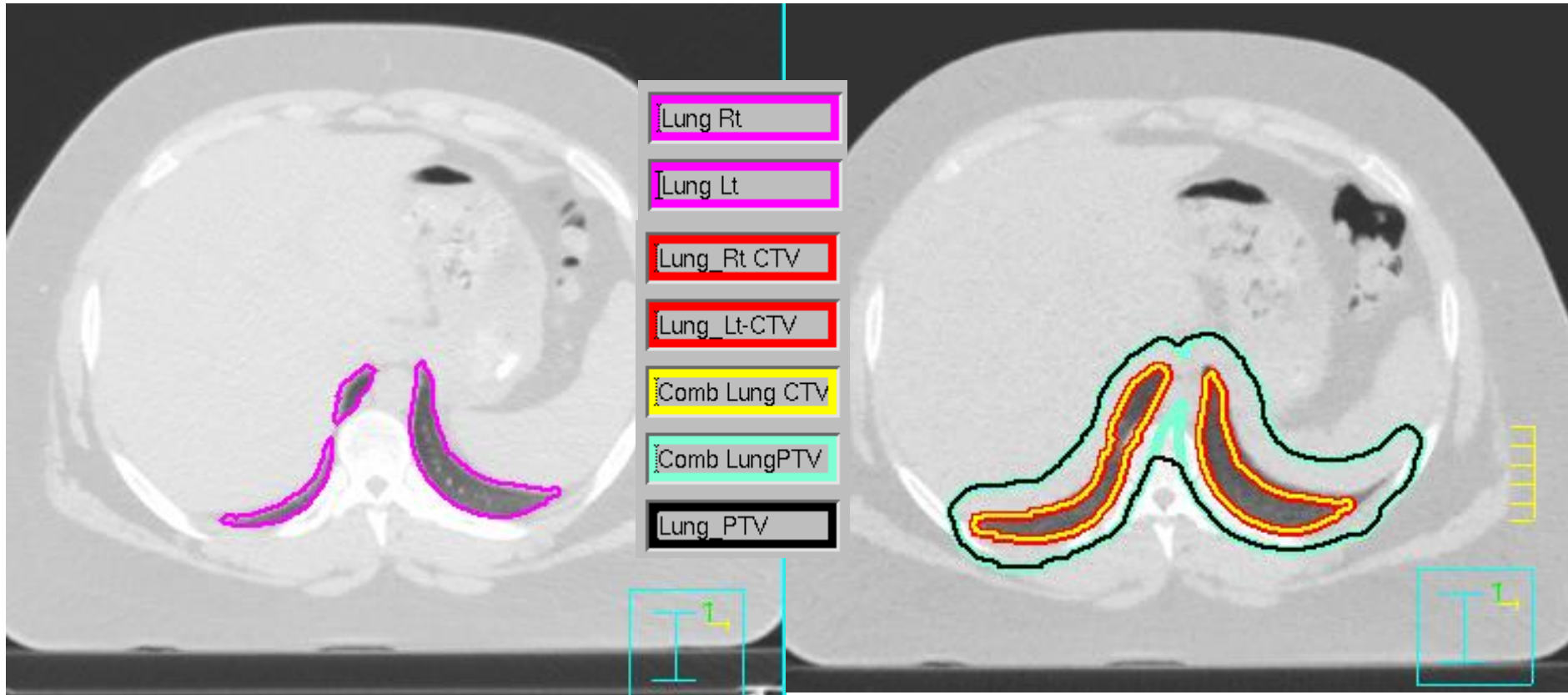
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CTV, PTV

Planning Scan

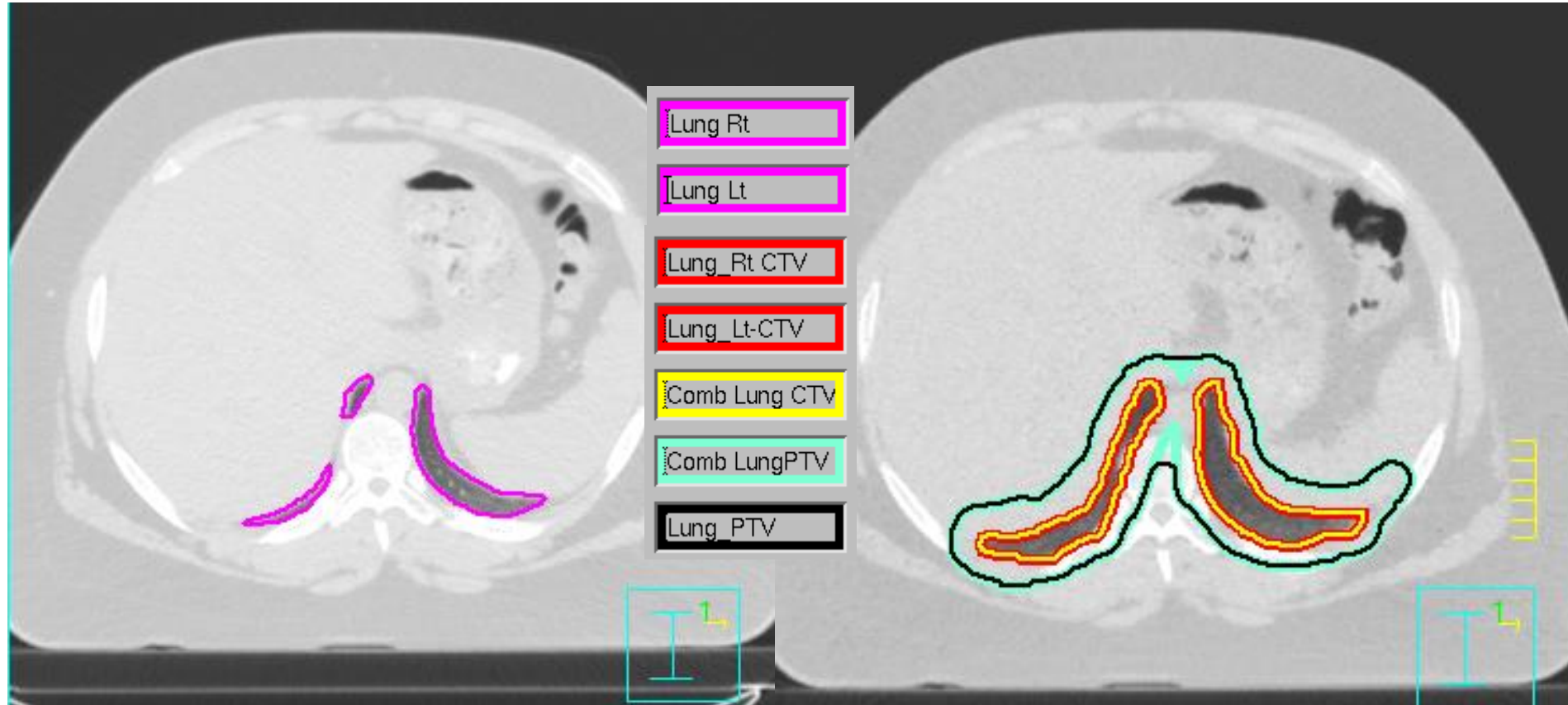
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CTV, PTV

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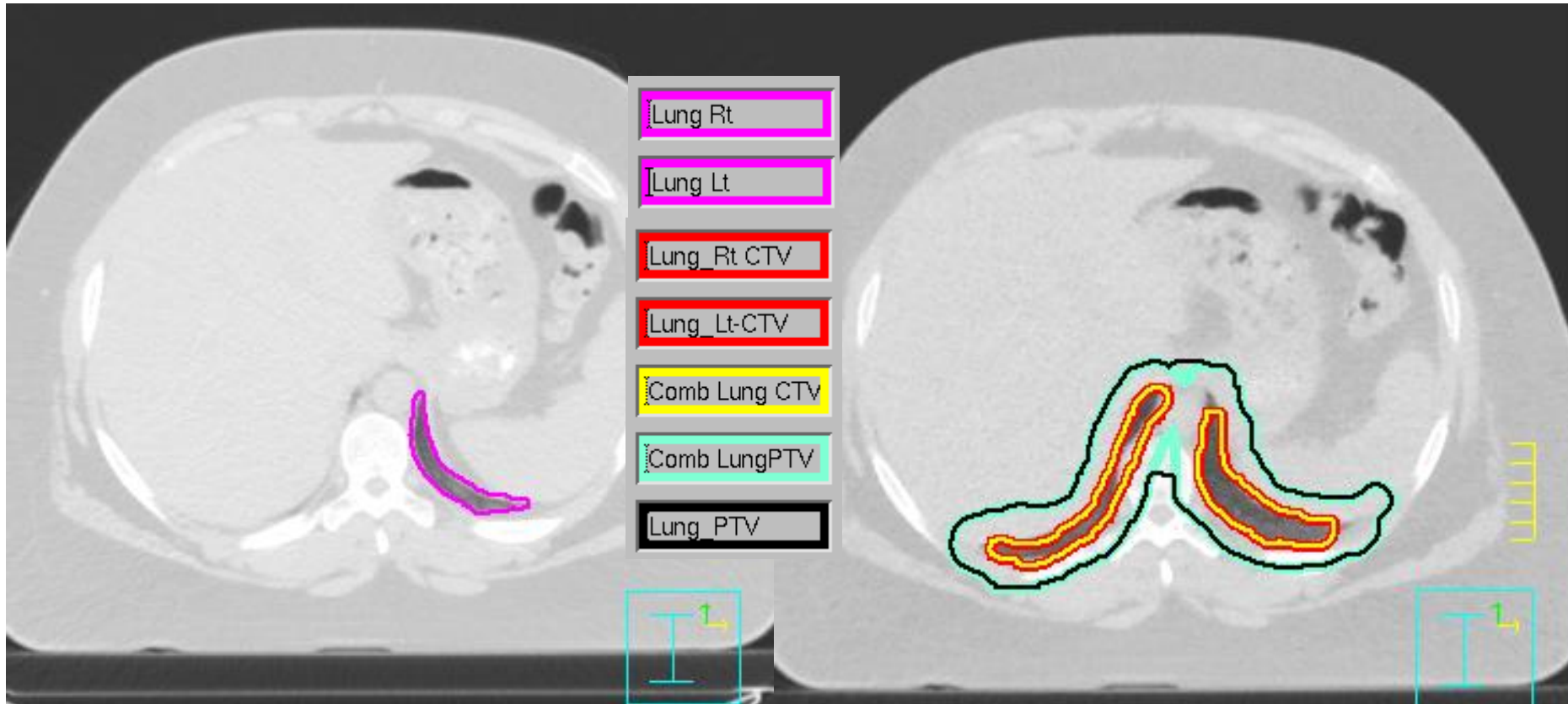
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CTV, PTV

Planning Scan

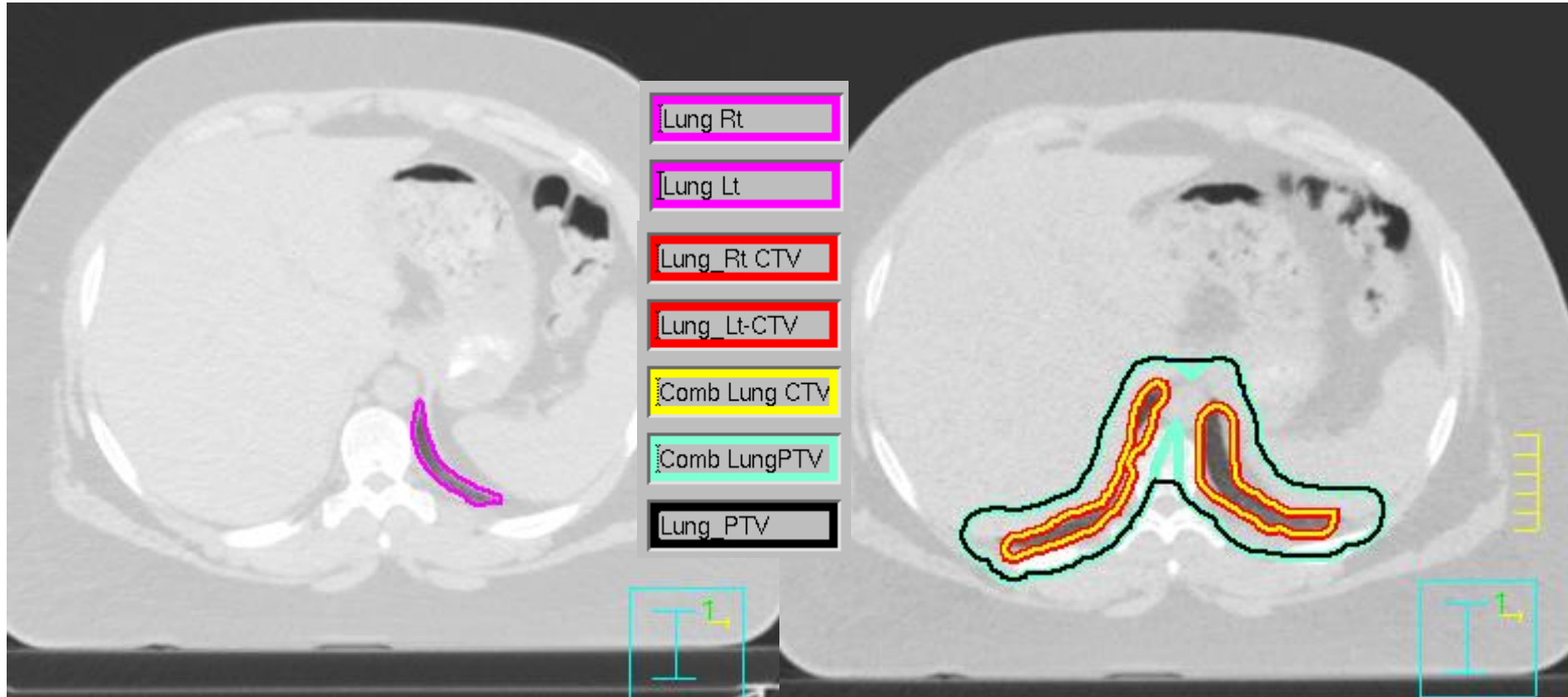
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CTV, PTV

Planning Scan

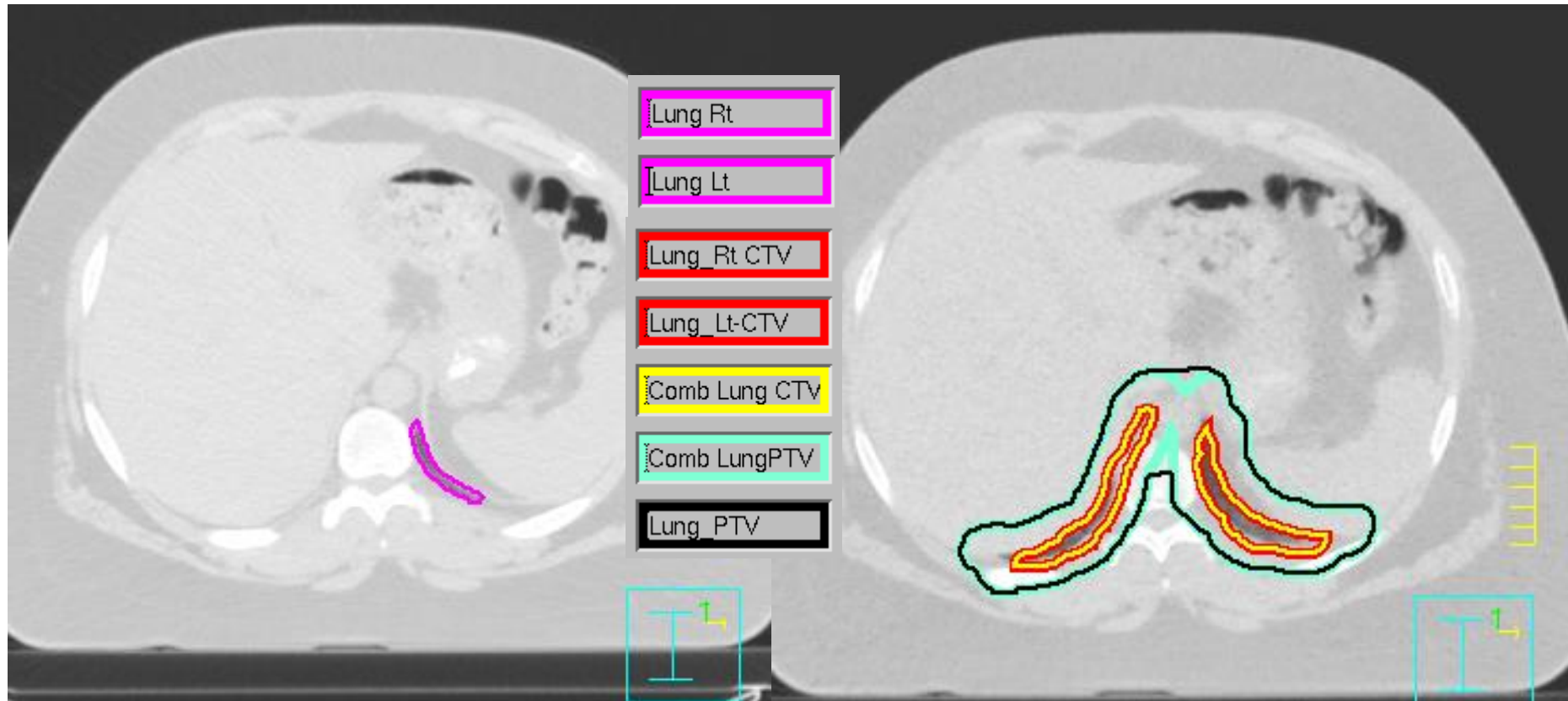
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CTV, PTV

Planning Scan

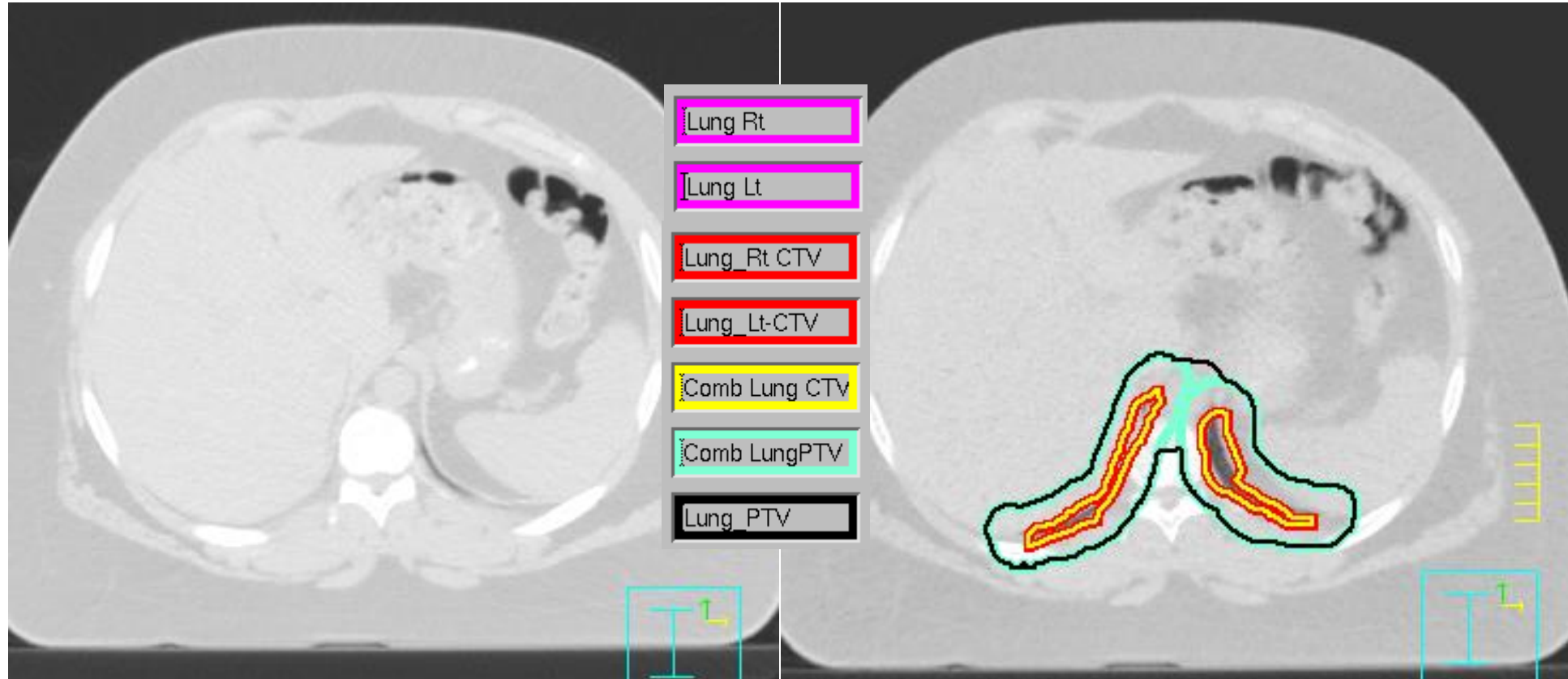
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Planning Scan

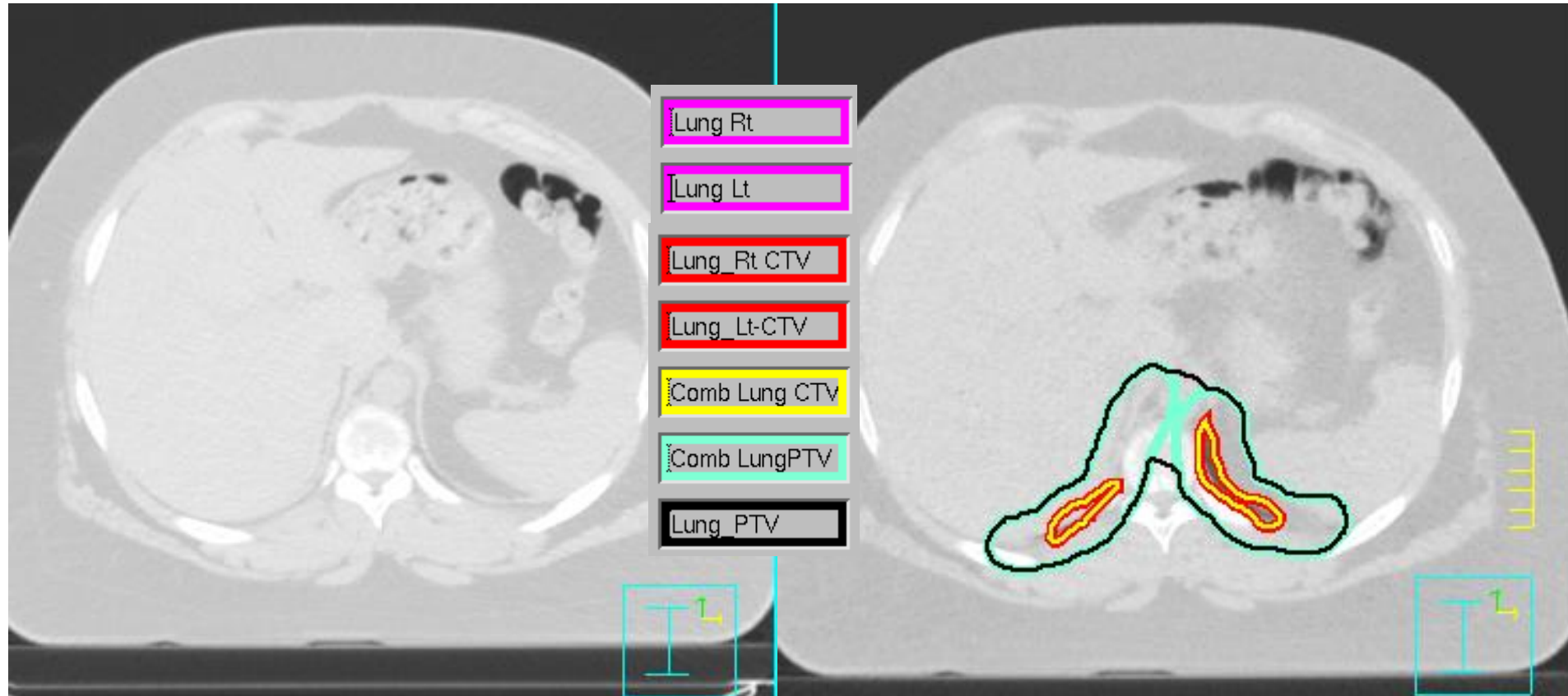
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Planning Scan

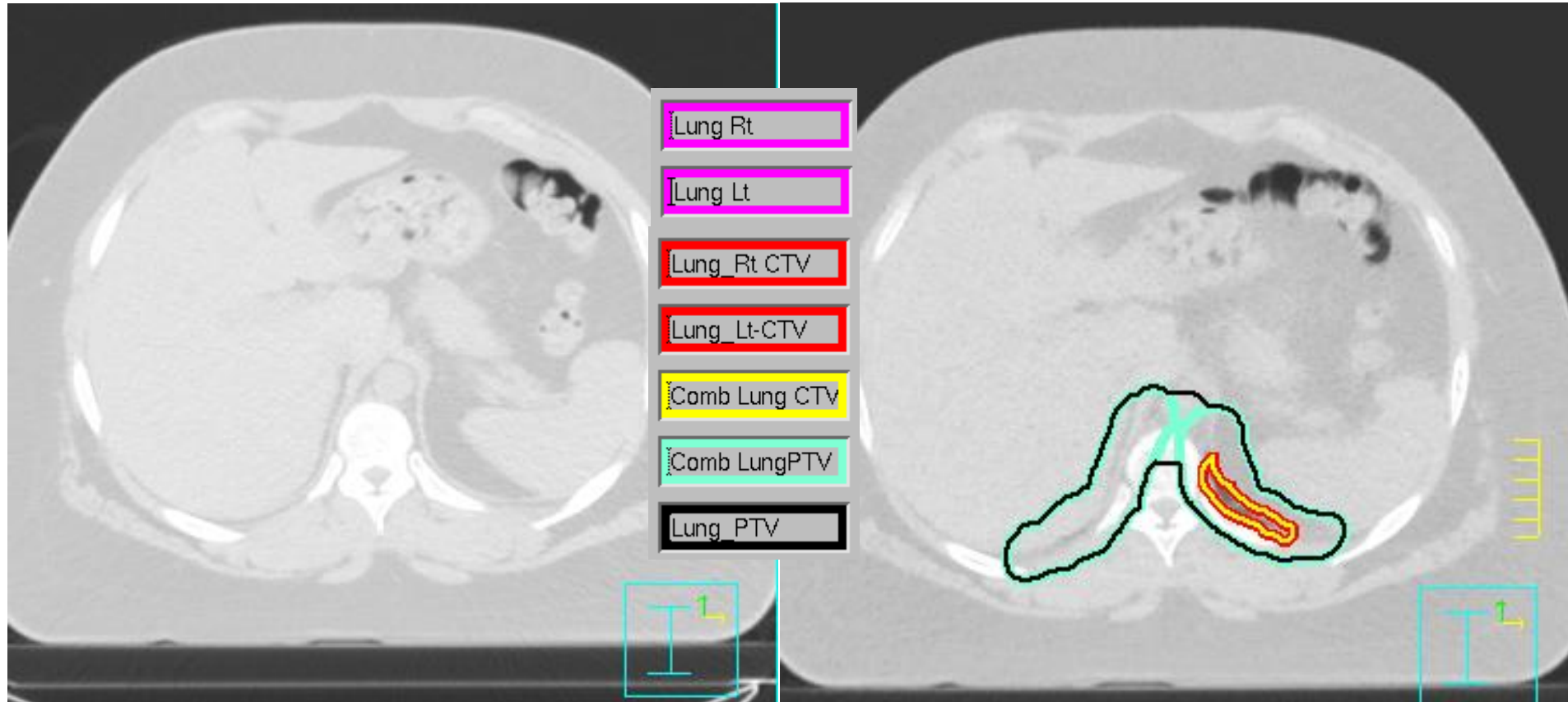
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Planning Scan

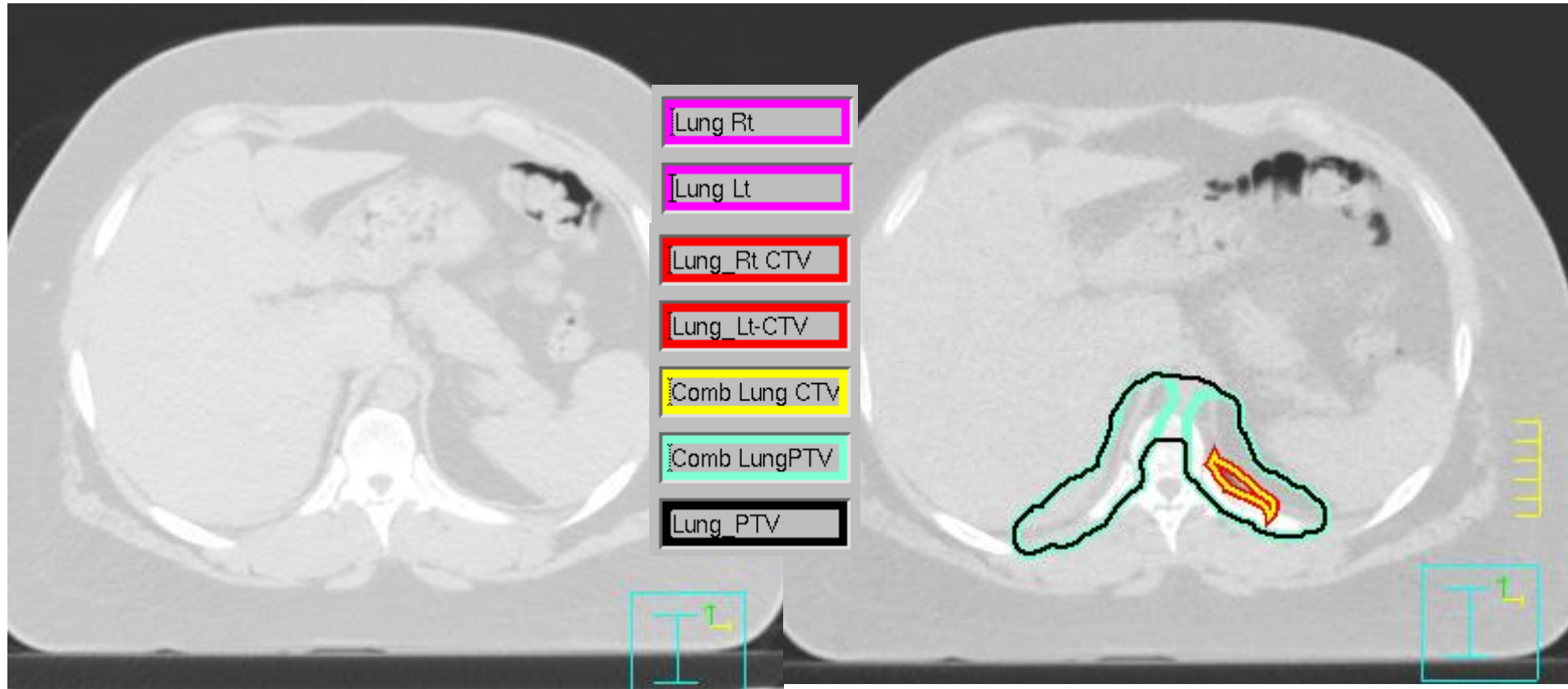
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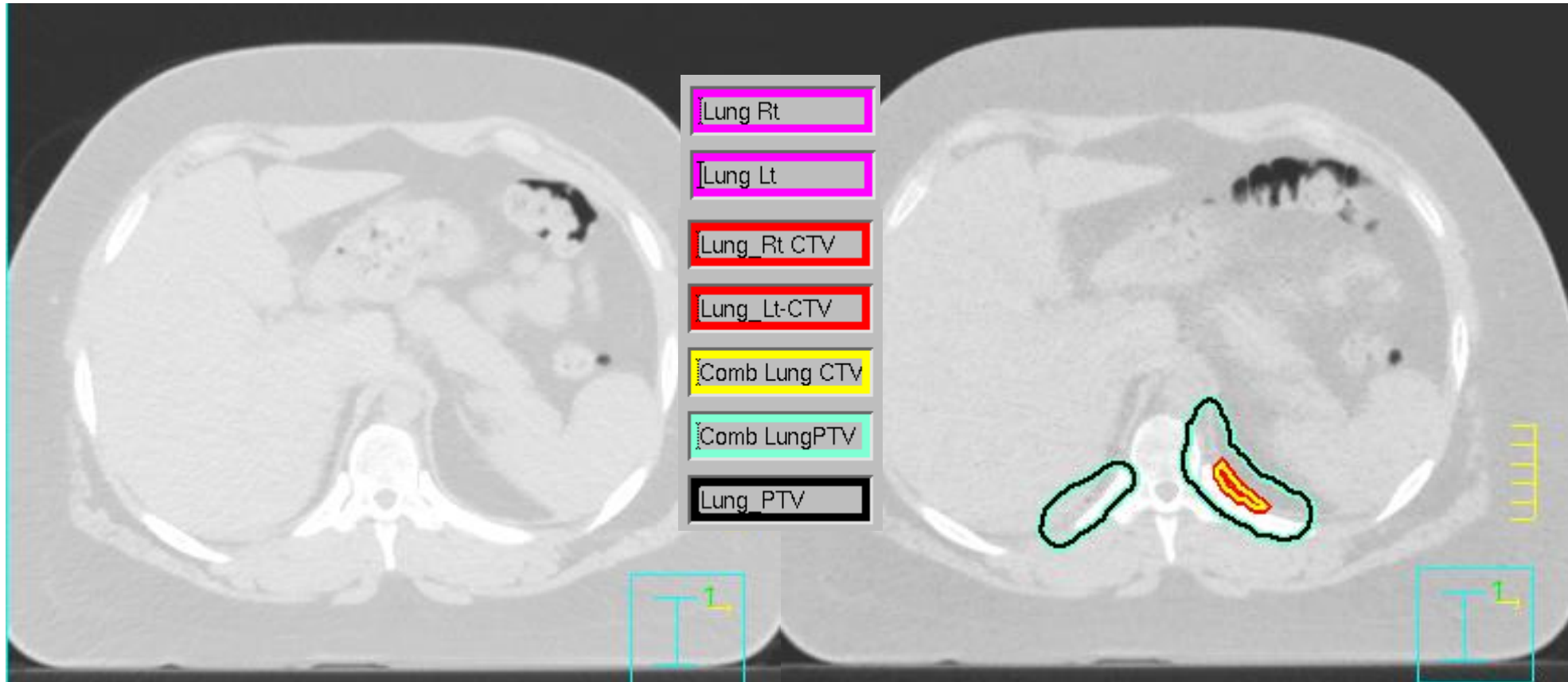
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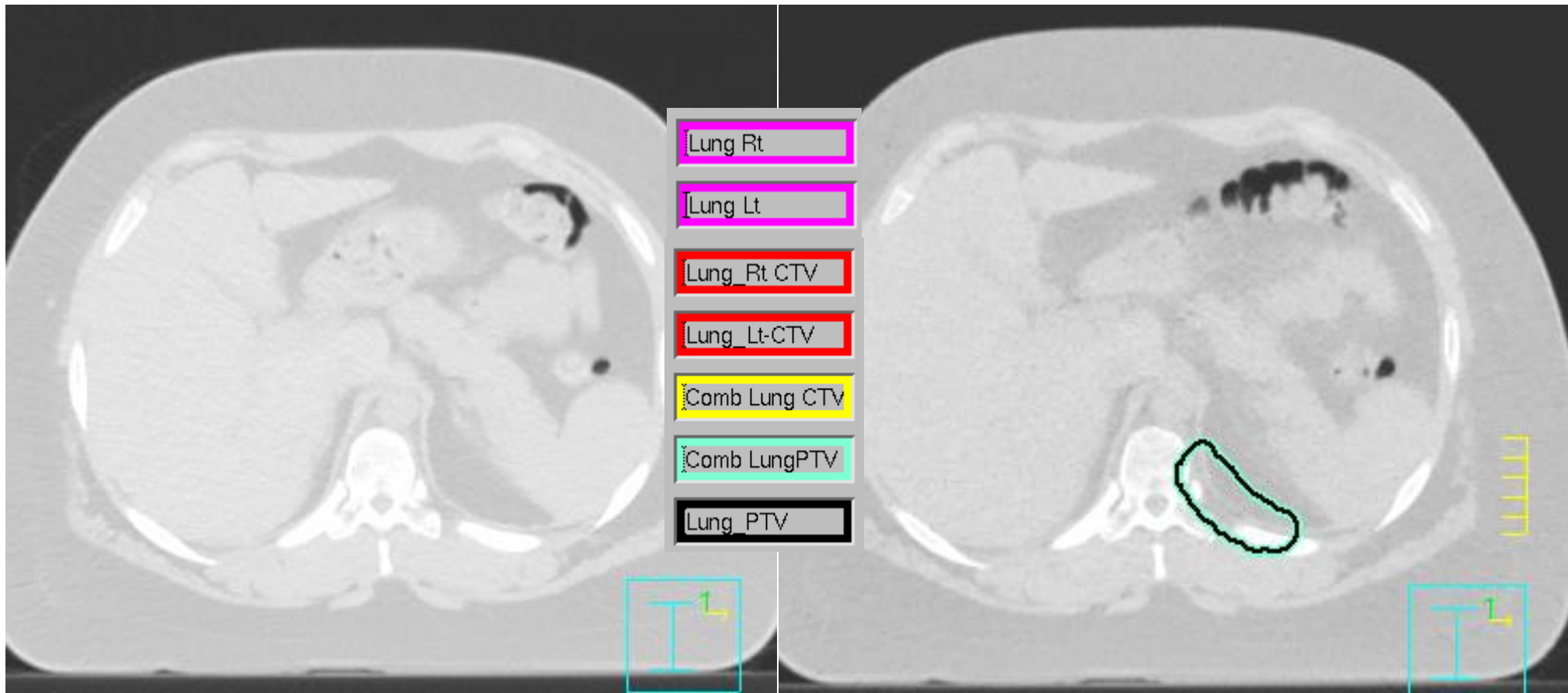
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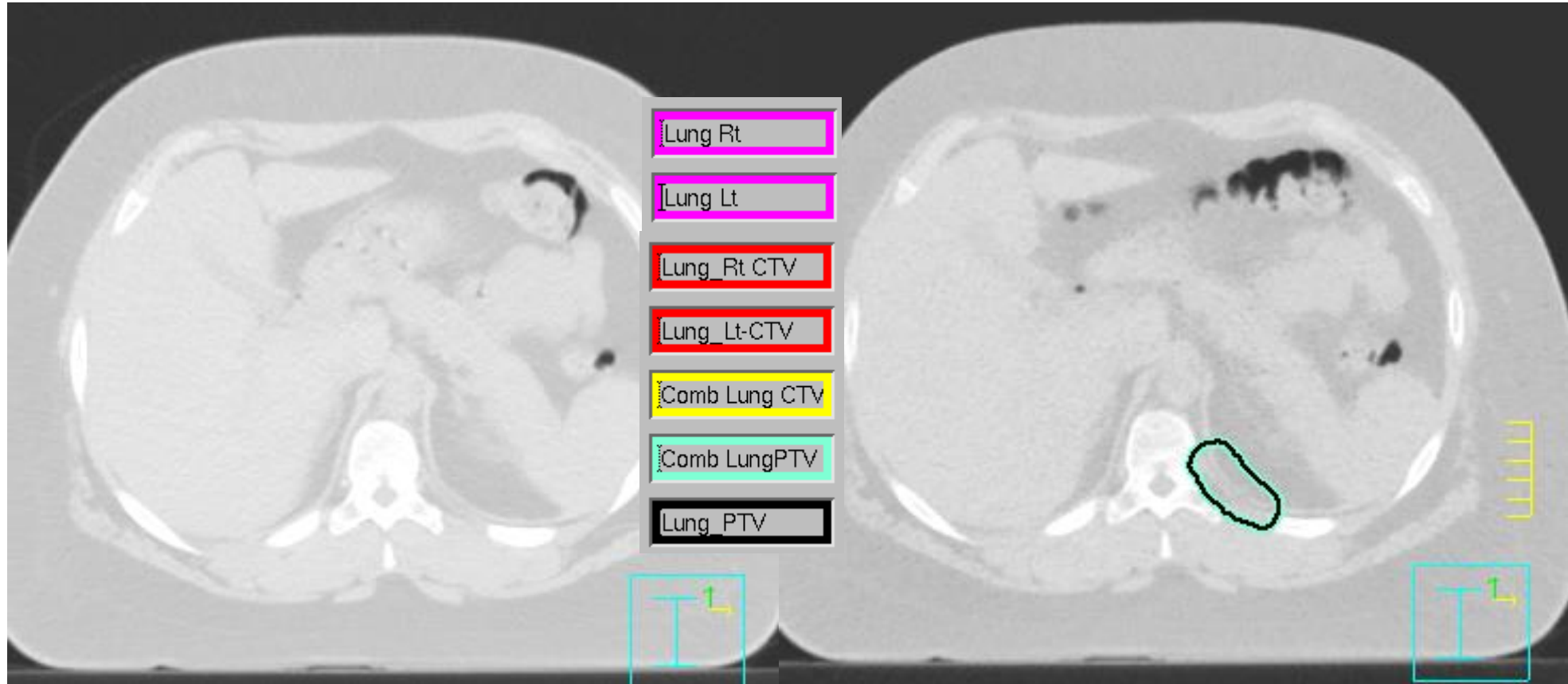
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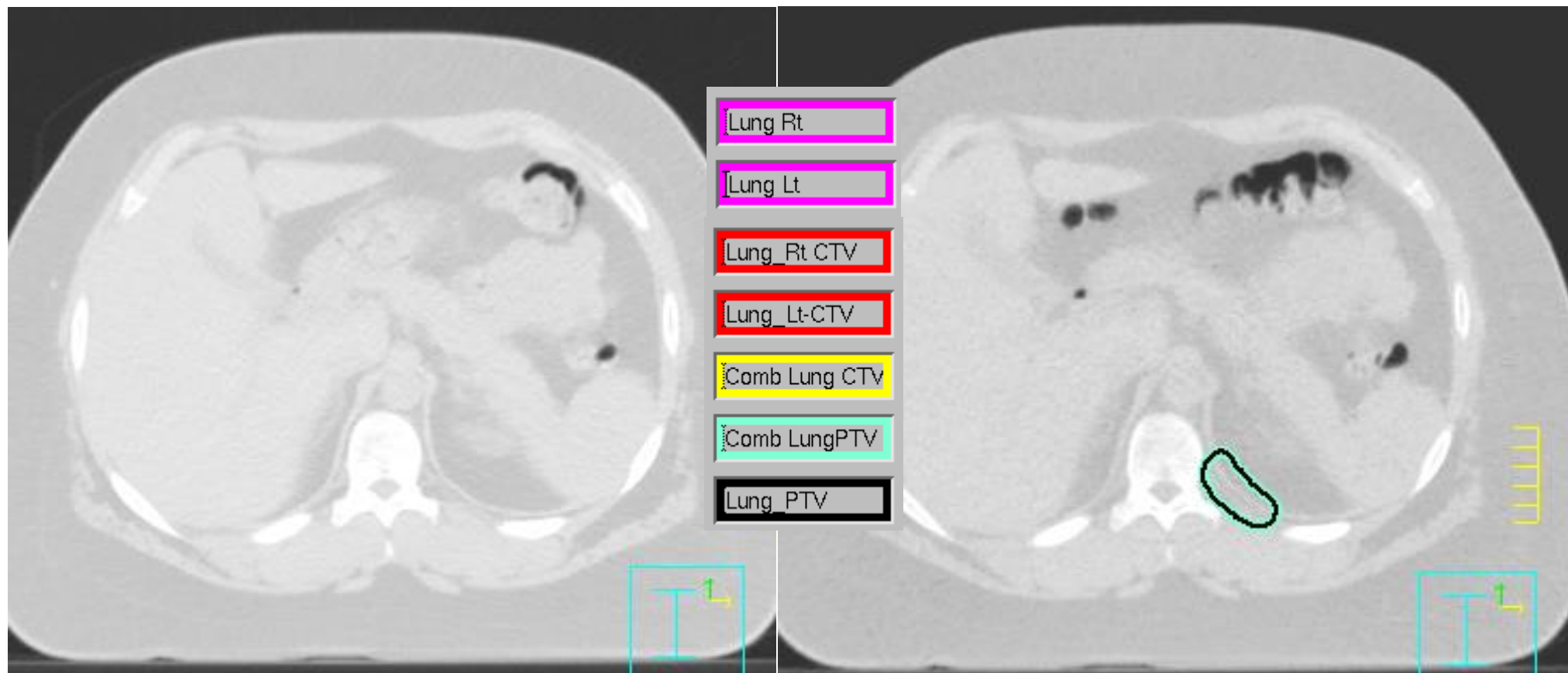
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CTV, PTV

Planning Scan

MinIP (Derived from 4DCT)



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