Supplementary material for Differding S, et al. Methodology for adaptive and robust FDG-PET escalated dose painting by numbers in head and neck tumors. Acta Oncol 2015, doi: 10.3109/0284186X.2015.1046997

Supplementary Figure 1. Schematic of workflow for dose painting. From the raw PET image until the calculation of a dose painting plan, the following workflow was developed.

Supplementary Table I. Patients' characteristics.

Patient	Age (y)	Tumor site	TNM stage
1	63	Left lateral pharyngeal wall	T4N0M0
2	66	Right vallecula	T4N2cM0
3	76	Left tonsillar fossa	T2N2bM0
4	61	Left tonsillar fossa	T4N2cM0
5	62	Base of tongue	T3N2cM0

Supplementary Table II. QVH metrics ($V_{Q=0.95}$, $V_{Q=1.05}$, QF, %) calculated for the dose-painted PTV_{PET} on pre-treatment with variation of the jaw width. (7 levels, pitch 0.43, MF 3).

Jaw width	5cm	2.5cm	1cm
Patient 1			
$V_{Q=0.95}$ (%)	96.8	97.6	95.8
$V_{Q=1.05}$ (%)	11.3	10.7	2.3
QF (%)	2.6	2.4	1.8
Patient 2			
$V_{Q=0.95}$ (%)	98.0	95.4	97.1
$V_{Q=1.05}$ (%)	8.6	4.5	3.8
QF (%)	2.4	2.2	1.8

Supplementary Table III. QVH metrics ($V_{Q=0.95}$, $V_{Q=1.05}$, QF, %) calculated for the dose-painted PTV_{PET} on pre-treatment with variation of the pitch (7 levels, MF 3, jaw 1 cm).

Pitch	0.287	0.43	0.86
Patient 1			
$V_{Q=0.95}$ (%)	95.8	95.8	96.7
$V_{Q=1.05}$ (%)	1.2	2.3	4.6
QF (%)	1.7	1.8	2.0
Patient 2			
$V_{Q=0.95}$ (%)	94.9	97.1	95.2
$V_{Q=1.05}$ (%)	2.3	3.8	3.5
QF (%)	1.9	1.8	2.0

Supplementary Table IV. QVH metrics ($V_{Q=0.95}$, $V_{Q=1.05}$, QF, %) calculated for the dose-painted PTV_{PET} on pre-treatment with variation of the modulation factor. (7 levels, pitch 0.43, jaw 1 cm).

Planned Modulation factor	1.5	2	3
Patient 1			
Actual MF	1.15	1.63	2.44
$V_{Q=0.95}$ (%)	91.0	96.9	95.8
$V_{Q=1.05}$ (%)	12.9	4.0	2.3
QF (%)	3.2	2.0	1.8
Patient 2			
Actual MF	1.24	1.68	2.21
$V_{Q=0.95}$ (%)	97.7	94.8	97.1
$V_{Q=1.05}$ (%)	13.4	3.5	3.8
QF (%)	2.7	2.0	1.8