

Table S1. Patients' description

Patient	Sex	Height, cm	Weight, kg	Age, y	BMI	AHI (initial)	AHI (after)	SpO2 (initial)	SpO2 (after)	Diagnosis
1	M	175	130	65	42	88	31	80	86,4	Severe OSA, Type 2 Respiratory Failure, Grade 3 Obesity.
2	M	148	51	75	23	21,4	40	88	91,7	Kyphoscoliosis, Moderate OSA.
3	M	170	145	50	50	53,5	2	75,5	80,2	Severe OSA, Grade 3 Obesity, Hypoxemia, Hypercapnia, Obesity Hypoventilation Syndrome
4	F	164	119	59	44	75	22,1	87	92,1	Severe OSA, Chronic Type 1 Respiratory Failure, Grade 3 Obesity
5	F	164	93	60	34,6	42,9	1,3	83,8	90,7	Severe OSA, High-Output Cardiac Failure (B), Bilateral Positive Airway Pressure (BiPAP), Type 1 Respiratory Failure
6	M	176	130	67	42	83,4	6,6	68,8	90,7	Severe OSA, Grade 1 Obesity, Type 2 Respiratory Failure.
7	M	178	106	65	33	109,2	25,7	67,1	79,2	Severe OSA, Grade 1 Obesity, Nocturnal Hypoxemia, High-Output Positive Airway Pressure (BiPAP).
8	M	170	93	79	32	65,1	11,1	81,2	91,1	Severe OSA, Grade 3 Obesity, Night Hypoxemia, COPD (B)
9	M	177	135	71	44	29	14	90	94	Moderate OSA.
10	F	169	150	59	52,5	84,7	18	78	87,3	Severe OSA, Grade 3 Obesity, Hypoxemia, Obesity-Related Hypoventilation during Sleep.
11	F	165	150	69	55	87,2	7,3	74,9	88,2	Severe OSA, Grade 3 Obesity, Type 2 Respiratory Failure, Obesity Hypoventilation Syndrome.

12	M	177	135	62		41,6	46,8	87,4	87,8	Severe OSA, Grade 3 Obesity, Nicotine Dependence, Type 1 Respiratory Failure.
13	M	186	129	56	37	34	7,4	84,8	98,6	Severe OSA, Hypoxemia, Type 1 Respiratory Failure, Grade 2 Obesity, High-Output Positive Airway Pressure (BiPAP), Type 2 Diabetes.
14	V	184	160	51	47	108,3	18,4	68,7	88,7	Severe OSA, Grade 3 Obesity, Chronic Type 2 Respiratory Failure, Uncontrolled Persistent Bronchial Asthma, Arterial Hypertension, Chronic Heart Failure III F.C. (NYHA).

Table S2. Patient's parameters during titration

