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**Title:** Volatile organic compounds (VOC) in exhaled breath in patients with lung cancer, using the analytical technique thermal desorber- gase chromatography-spectrometer masses

Prof. Dr Javier 18490 Jareno Esteban jjjarenoesteban@yahoo.es MD <sup>1</sup>, Mrs. Maria Angeles 18491 Munoz Lucas mmunozlucas@yahoo.es <sup>1</sup>, Mrs. Belen 18492 Carrillo Aranda carrillo\_b@hotmail.com <sup>1</sup>, Prof. Dr Jose Angel 18493 Maldonado Sanz joseamaldo@gmail.com MD <sup>1</sup>, Prof. Dr Concepcion 18494 Civera Tejuca mccivera@farm.ucm.es <sup>2</sup>, Prof. Dr Antonio 18495 Aguilar Ros aguiros@ceu.es <sup>3</sup>, Prof. Dr Gema 18507 Rodriguez Trigo grodriguez.t.hcsc@salud.madrid.org MD <sup>4</sup>, Prof. Dr Carlos 18605 Gutierrez Ortega cgutort@oc.mde.es <sup>1</sup>, Prof. Dr Jose Luis 18606 Alvarez Sala jlasw@separ.es MD <sup>4</sup> and Prof. Dr Luis 18634 Callol Sanchez lcallol@hotmail.com MD <sup>1</sup>. <sup>1</sup> Unidad Multidisciplinaria de Investigacion en Diagnostico Precoz de Cancer de Pulmon, Hospital Central de la Defensa, Madrid, Spain, 28047 ; <sup>2</sup> Quimica Fisica II, Facultad de Farmacia. Universidad Complutense de Madrid, Madrid, Spain ; <sup>3</sup> Farmacocinetica, Facultad de Farmacia. Universidad San Pablo CEU, Madrid, Spain and <sup>4</sup> Neumologia, Hospital Clinico San Carlos, Madrid, Spain .

**Body:** AIM: Oxidative stress is increased in lung cancer (LC) and generated volatile organic compounds (VOC). We can detect VOC in exhaled breath using the analytical technique TD / GC / MS. The determination of VOC, may be useful as a noninvasive screening in LC. OBJETIVE: To determine differences in VOC present in the exhaled breath in 3 groups: LC group, COPD group and clinically healthy volunteers. METHODS: Case-control study with 81 patients with LC, 40 patients with COPD and 89 healthy volunteers (without respiratory disease). Informed consent accepted. Collection of exhaled breath by means BioVOC™ to functional residual capacity Analytical technique: TD/GC/MS (Markes-Agilent Tech.) Statistical analysis: SPSS® v-15 for Windows. RESULTS: Description of the sample. Quantitative study and qualitative study of VOC.

CONCLUSIONS: 1-Nonanoic acid is the only VOC with statistical significance between study groups: and it is independent of age and smoke custom. 2. – The probability to find nonanoic acid in LC group is higher than control and COPD groups 3. - Nonanoic acid and heptanal could be useful to discriminate between LC + COPD patients versus LC without COPD patients. 4. - In our sample, nonanoic acid could be useful like a LC tumorlike marker. Supported by FIS: PI07/1116; Neumomadrid 2008 and SEPAR 2010: PI-881.