

Supporting information:

Integrated photocatalytic micropillar nanoreactor electrospray ionization microchip for mimicking phase I metabolic reactions

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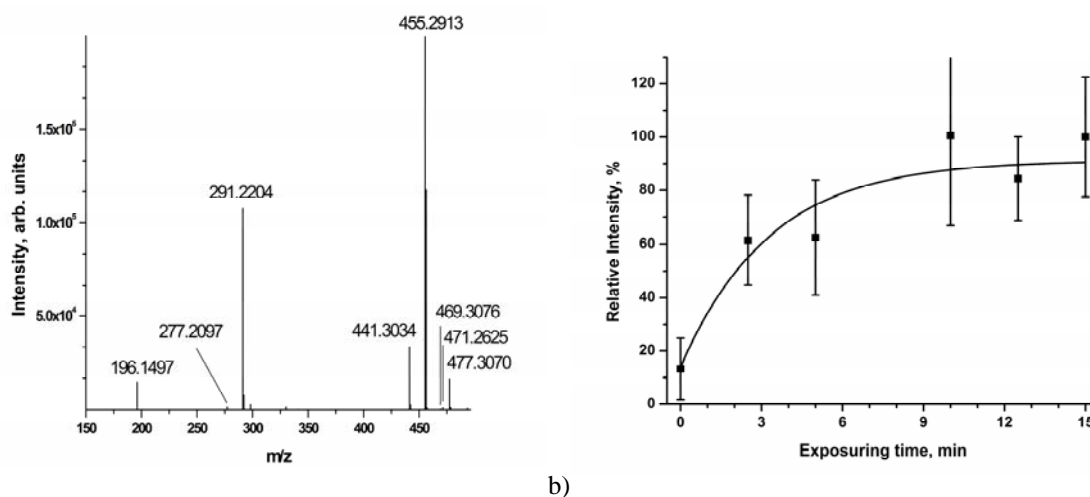


Figure S1: a) Mass spectrum of verapamil reaction products formed with TiO₂-nanoreactor- μ PESI-chip. b) Relative intensity of verapamil reaction products versus a protonated verapamil ion as a function of UV-exposing time.

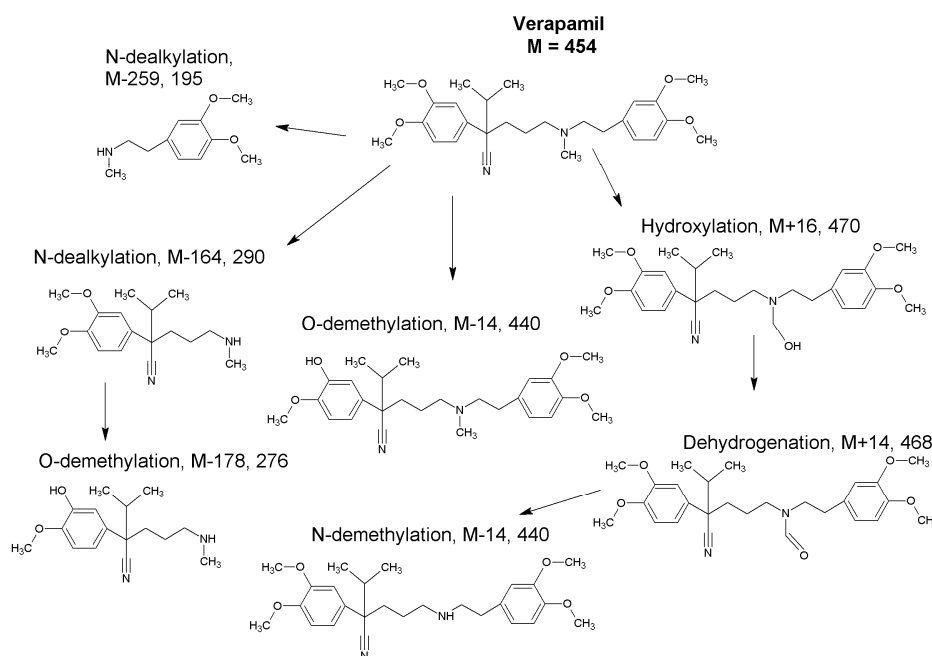


Figure S2. Verapamil and reaction products produced with TiO₂-nanoreactor- μ PESI method. Arrows shows the suggested verapamil metabolism pathway.

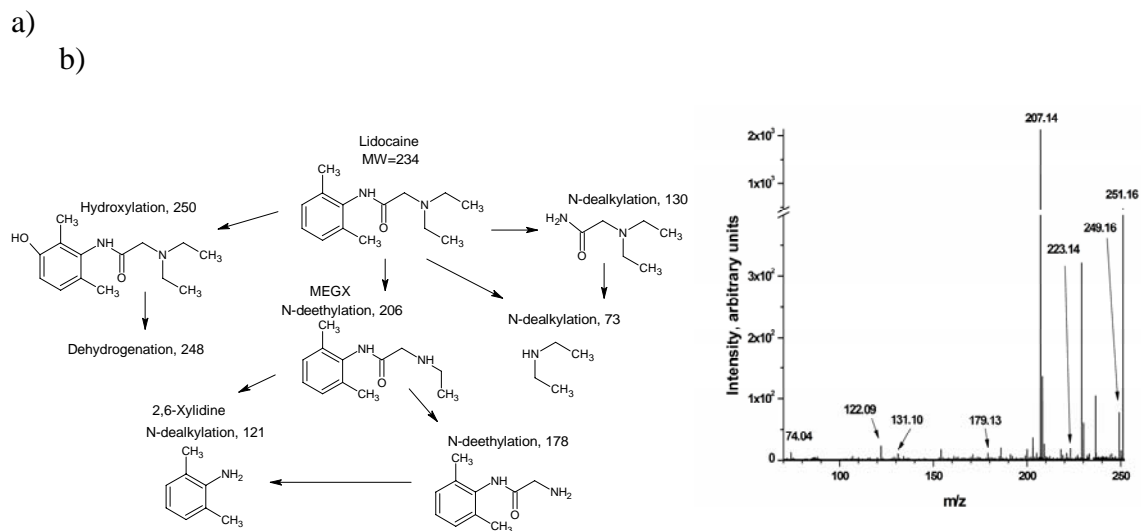


Figure S3. a) A mass spectrum of lidocaine reaction products analyzed with TiO_2 -nanoreactor- $\mu\text{PESI-MS}$. b) Suggested metabolism pathway of lidocaine.

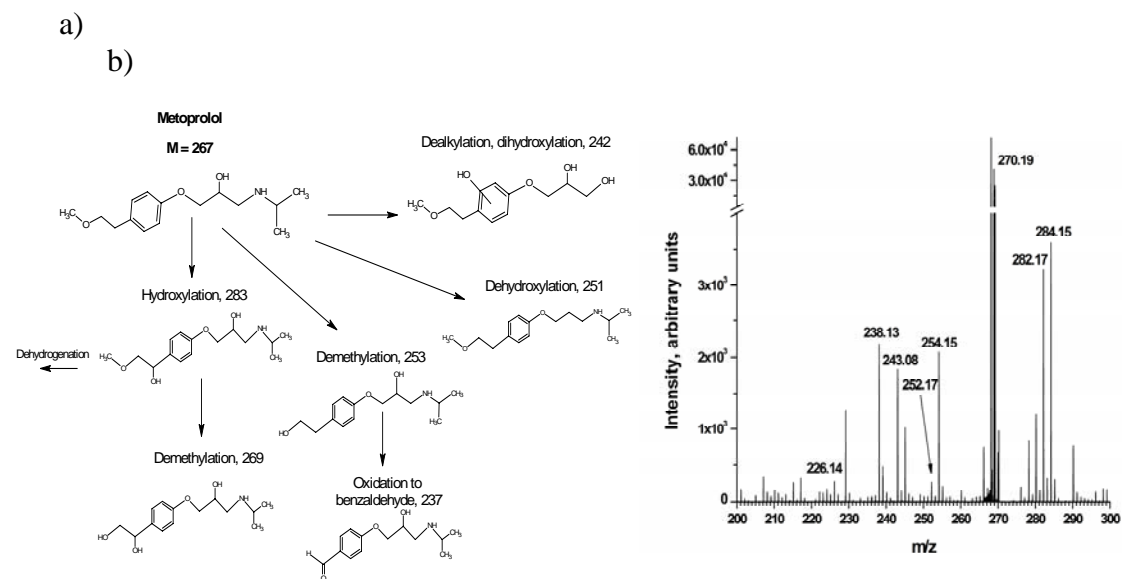
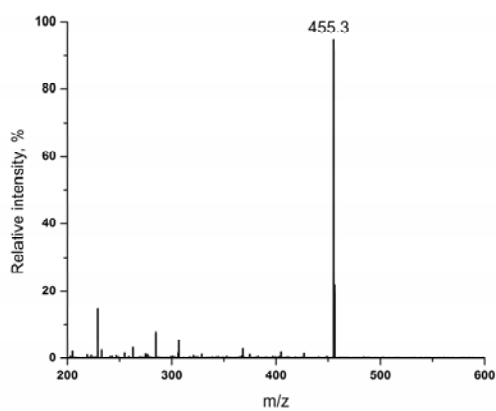


Figure S4. a) A suggested metabolism pathway of metoprolol. b) A mass spectrum of metoprolol reaction products analyzed with TiO_2 nanoreactor- $\mu\text{PESI-MS}$.

a)



b)

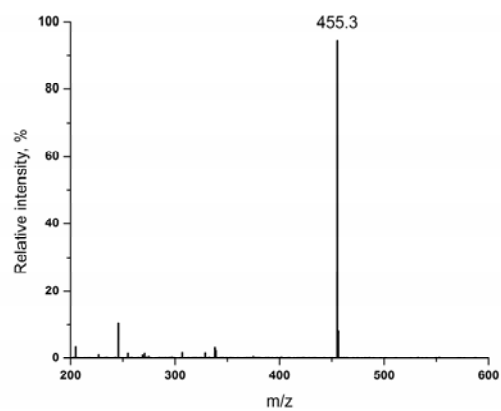


Figure S5. a) A mass spectrum of verapamil, measured after keeping it for 15 min on an uncoated silicon μ PESI microchip (containing a native SiO_2 -nanolayer) and b) a mass spectrum of verapamil and its possible reaction products formed within 15 min UV illumination on the uncoated silicon μ PESI microchip.