

**DEPRESIJA - DUŠEVNI POREMEĆAJ  
RAZLIČITE SIMPTOMATOLOGIJE,  
INTENZITETA, POREKLA I DUŽINE  
TRAJANJA.**

KARAKTERIŠE JE SKUP SIMPTOMA, OD KOJIH SU NEKI NAVEDENI NA SLEDEĆOJ STRANI, ALI DIJAGNOZU MOŽE POSTAVITI SAMO NEUROPSIHIJATAR, OPSERVACIJOM PACIJENTA, UZIMANJEM ANAMNEZE I DR. NIKADA NE POSTAVLJATI DIJAGNOZU SAM SEBI, JOŠ MANJE "PREPISIVATI" TERAPIJU! TAKVO "LEČENJE" MOŽE BITI DALEKO GORE OD SAME BOLESTI. UVEK SE OBRATITI LEKARU.

VEĆINA LJUDI PROLAZI KROZ NORMALNA DEPRESIVNA STANJA, KAO REAKCIJU NA KONKRETNE DOGAĐAJE U ŽIVOTU. MEĐUTIM, OVAKVA STANJA OBIČNO PROLAZE SPONTANO, NEMAJU POSEBNO TEŽAK KARAKTER I TRAJU RELATIVNO KRATKO (NAJVIŠE NEKOLIKO NEDELJA).

Albrecht Durer: *Melancholia I*;  
1514.



## DEPRESIJA - DUŠEVNI POREMEĆAJ RAZLIČITE SIMPTOMATOLOGIJE, INTENZITETA, POREKLA I DUŽINE TRAJANJA.

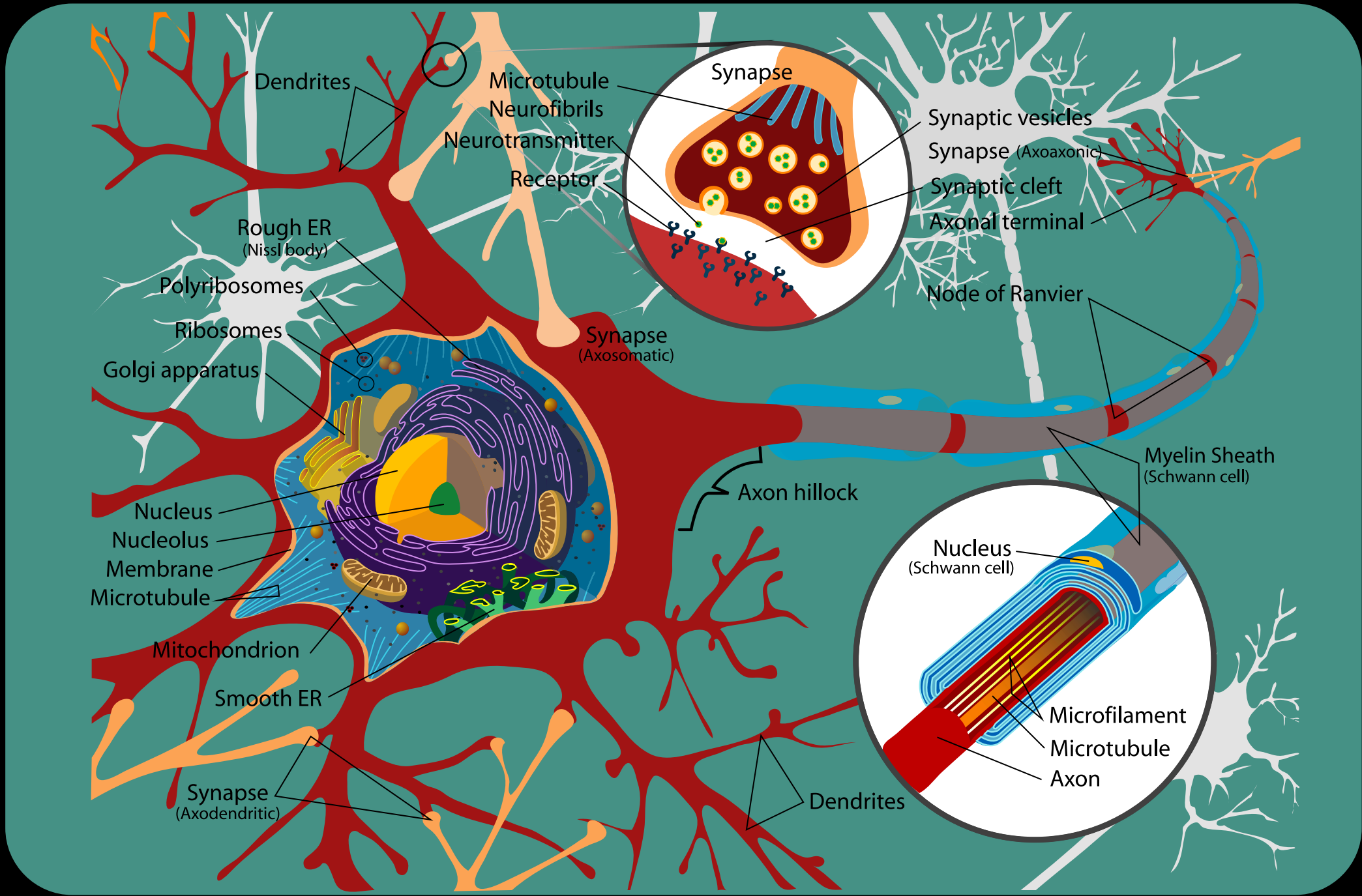
NEKI OD SIMPTOMA MOGUĆE DEPRESIJE KAO DUŠEVNOG POREMEĆAJA (RAZLOG ZA LEKARSKI PREGLED)

- HRONIČNO OSEĆANJE POTIŠTENOSTI, ANKSIOZNOSTI ILI PRAZNINE
- ODSUSTVO OSEĆAJA ZADOVOLJSTVA U NEOBAVEZNIM I REKREATIVNIM AKTIVNOSTIMA
- PODLOŽNOST IRITACIJI I ANKSIOZNOSTI
- OSEĆAJ KRIVICE, BESKORISNOSTI I/ILI BEZNAĐA
- POREMEĆAJI SNA (PREVIŠE ILI PREMALO)
- VELIKE OSCILACIJE U TELESNOJ TEŽINI (POVEĆANJE ILI SMANJENJE)
- NISKA RADNA ENERGIJA, KONSTANTAN OSEĆAJ ZAMORA
- SUICIDNE IDEJE
- ODSUSTVO KONCENTRACIJE
- I VIŠE DRUGIH.....

DEPRESIJA (KAO NI VEĆINA DRUGIH DUŠEVNI POREMEĆAJA) NE MOŽE SE POUZDANO DIJAGNOSTIKOVATI INSTRUMENTALNIM METODAMA - KAO ŠTO SU EEG (ELEKTROENCEFALOGRAFIJA, FMRI (*FUNCTIONAL MAGNETIC RESONANCE IMAGING*), PET (*POSITRON EMISSION TOMOGRAPHY*), BIOHEMIJSKIM TESTOVIMA I DR. IPAK, U TOM POGLEDU POSTOJI KONSTANTAN I VRLO ZNAČAJAN NAPREDAK.

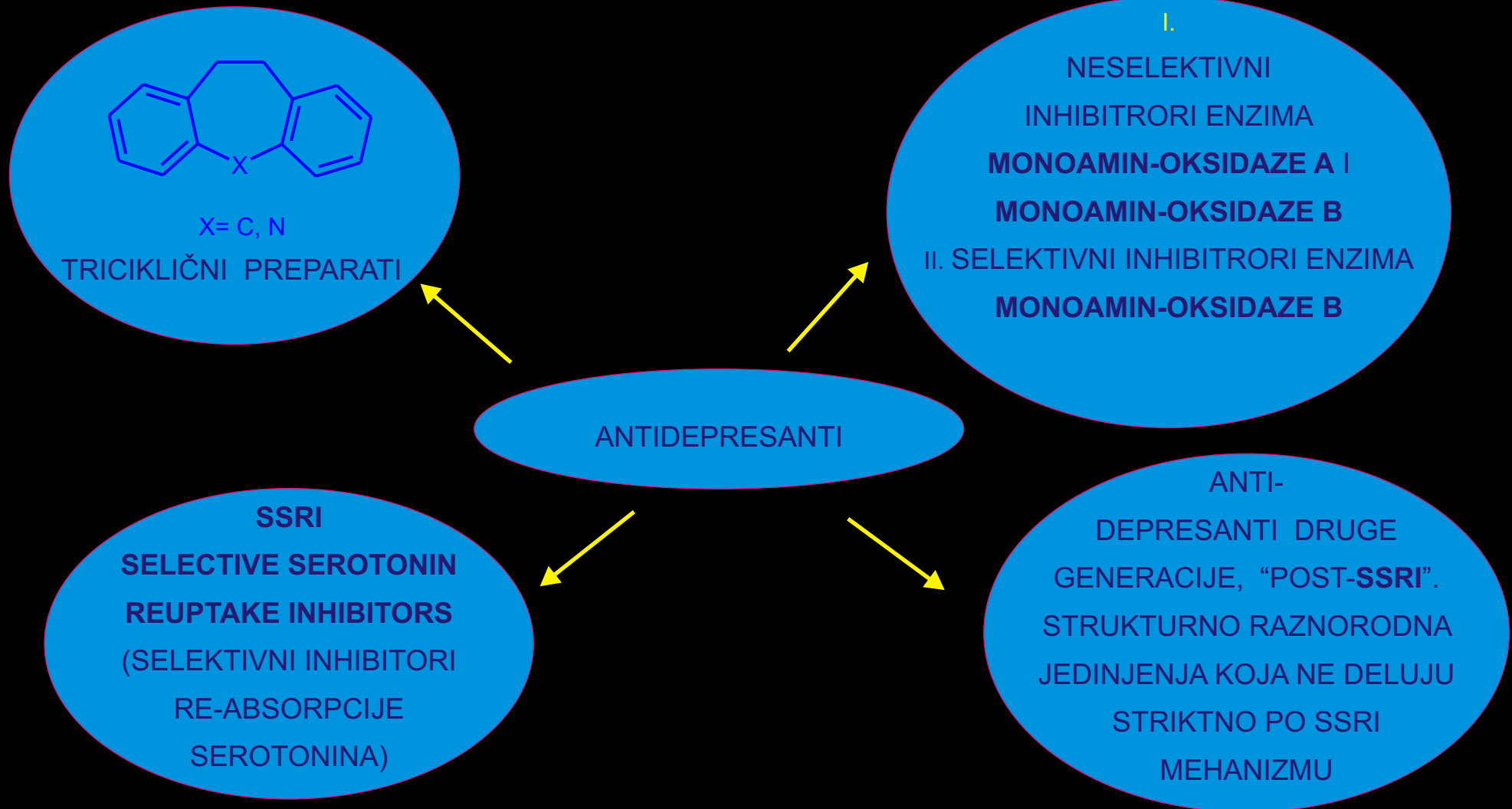
NA MOLEKULARNOM NIVOU, POSEBNO KADA JE U PITANJU PRENOS NERVNIH SIGNALA KROZ NEURONE I SINAPSE, POSTOJE ZNAČAJNA SAZNAJNA KAKO O NORMALNIM, TAKO I O PATOLOŠKIM ASPEKTIMA OVIH PROCESA, UKLJUČUJUĆI I DEPRESIJU.

BEZ OBZIRA ŠTA SU SVE MOGUĆI UZROCI DEPRESIJE KAO DUŠEVNOG POREMEĆAJA (VRLO SPORNO PITANJE U STRUČNIM KRUGOVIMA), DEPRISIJA, KAO I NORMALNI PSIHIČKI PROCESI (PERCEPCIJA, INTELEKTUALNE AKTIVNOSTI, EMOCIJE I DR.), IMA SVOJ BIOHEMIJSKI ASPEKT. STOGA JE, BAR TEORIJSKI (A U NOVIJE VREME I PRAKTIČNO) MOGUĆE UBLAŽAVATI DEPRESIVNE POREMEĆAJE FARMAKOTERAPIJOM - DAVANJEM RAZLIČITIH LEKOVA PACIJENTIMA.

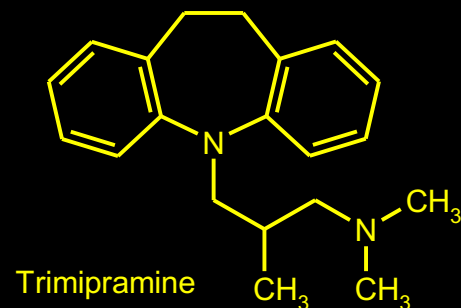
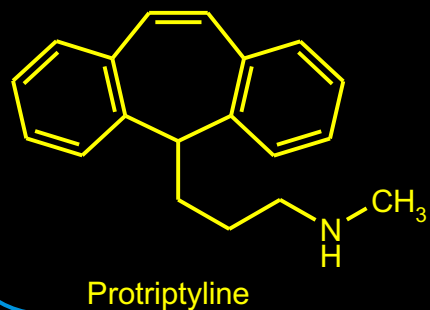
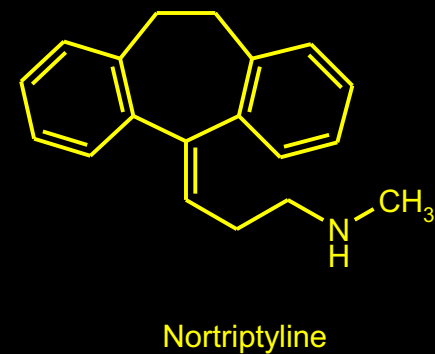
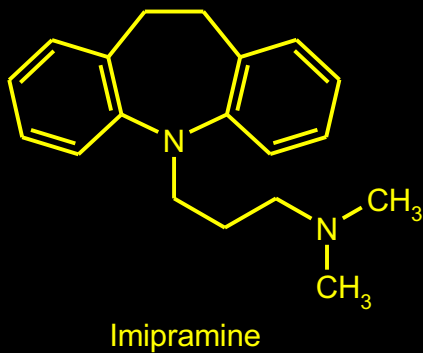
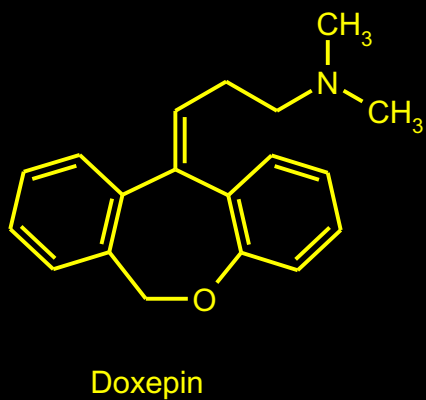
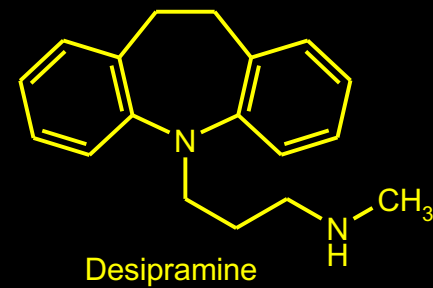
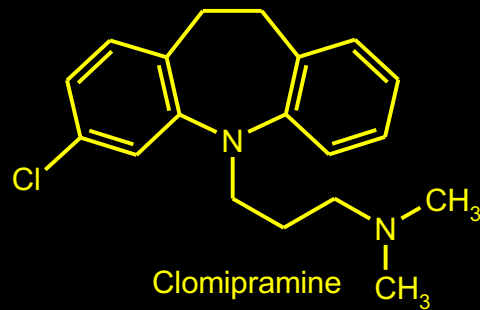
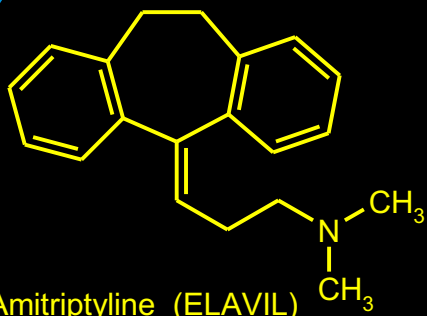


# ANTI-DEPRESANTI: LEKOVI KOJI LEČE DEPRESIVNA STANJA I/ILI UBLAŽAVAJU KLINIČKE SIMPTOME DEPRESIJE

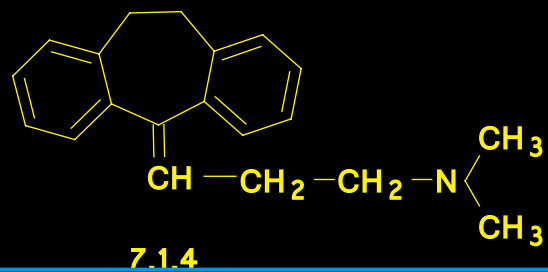
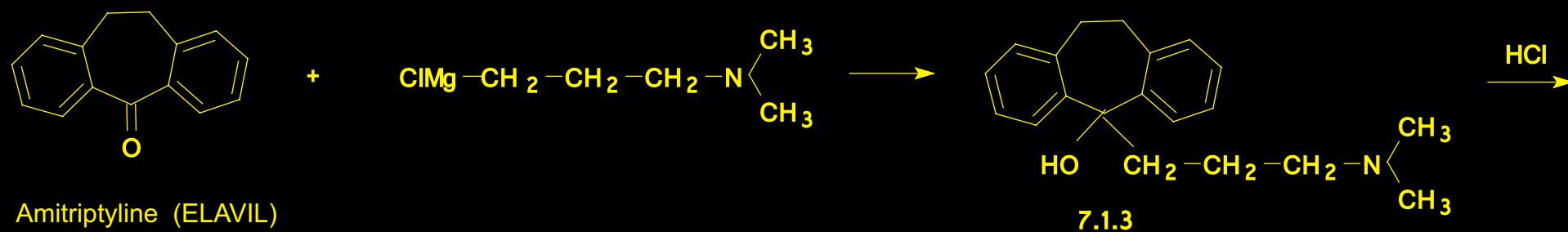
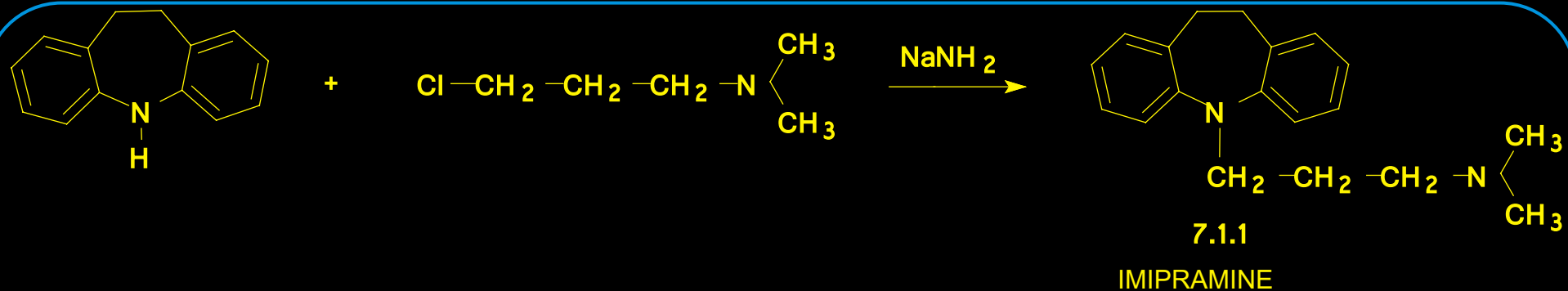
## PODELA (KOMBINOVANO STRUKTURNO-FARMAKOLOŠKA)



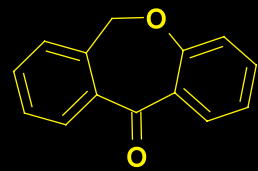
TRICIKLIČNI ANTIDEPRESANTI (TCA)-Amitriptyline , Clomipramine, Desipramine, Doxepin, Imipramine, Nortriptyline, Protriptyline, Trimipramine,



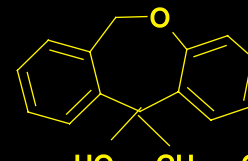
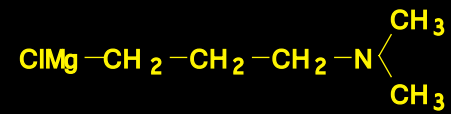
## TRICIKLIČNI ANTIDEPRESANTI (TCA)-SINTEZE



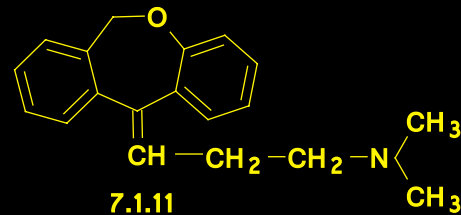
# TRICIKLIČNI ANTIDEPRESANTI (TCA)-SINTEZE



7.1.9

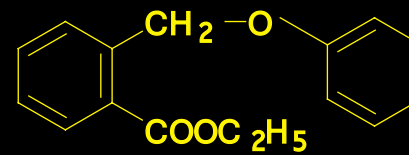
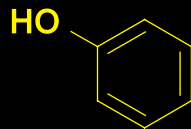
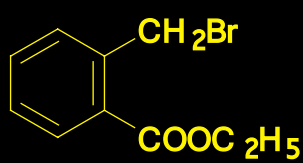


7.1.10



7.1.11

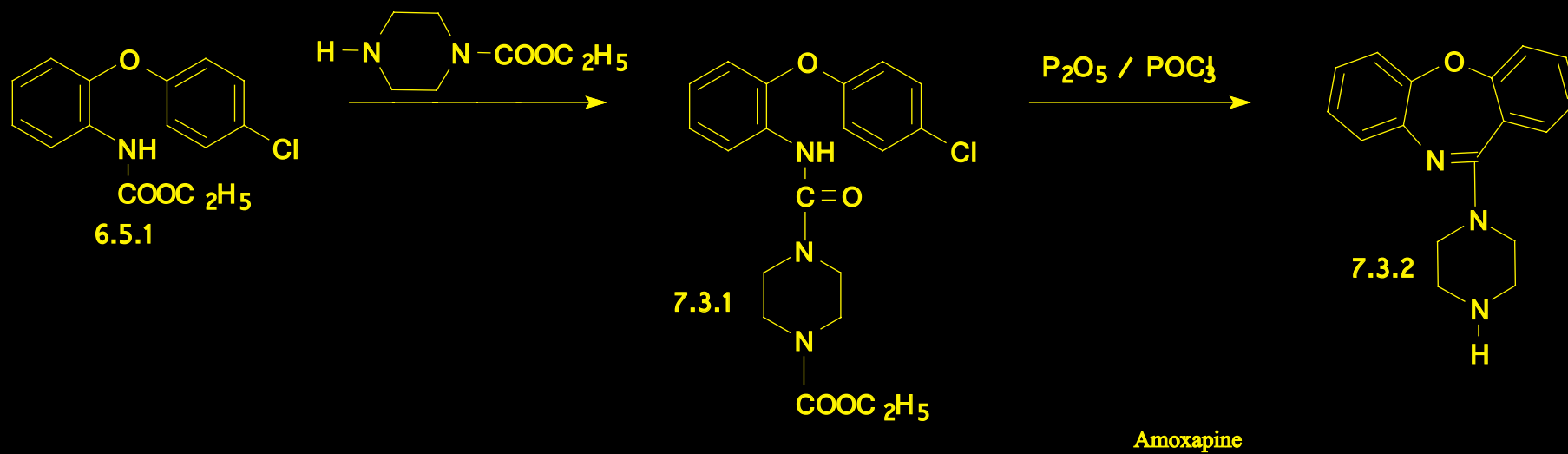
DOXEPIN



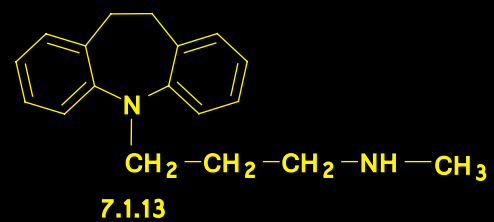
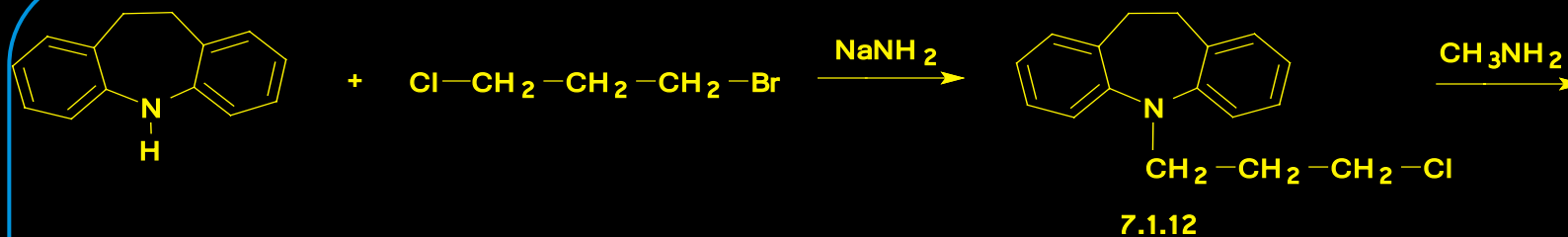
7.1.7



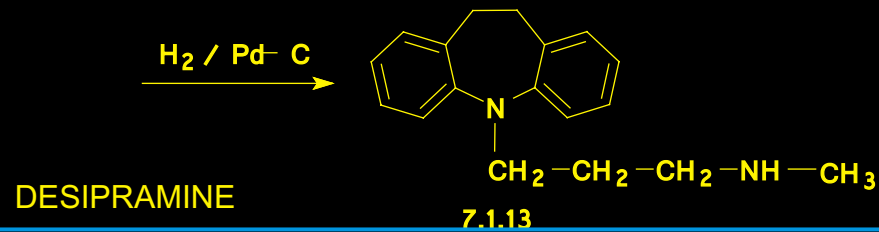
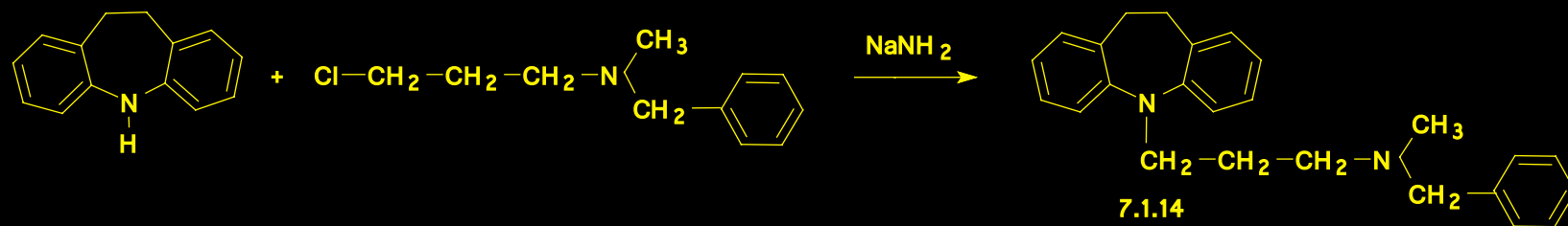
## TRICIKLIČNI ANTIDEPRESANTI (TCA)-SINTEZE



TRICIKLIČNI ANTIDEPRESANTI (TCA)-SINTEZE

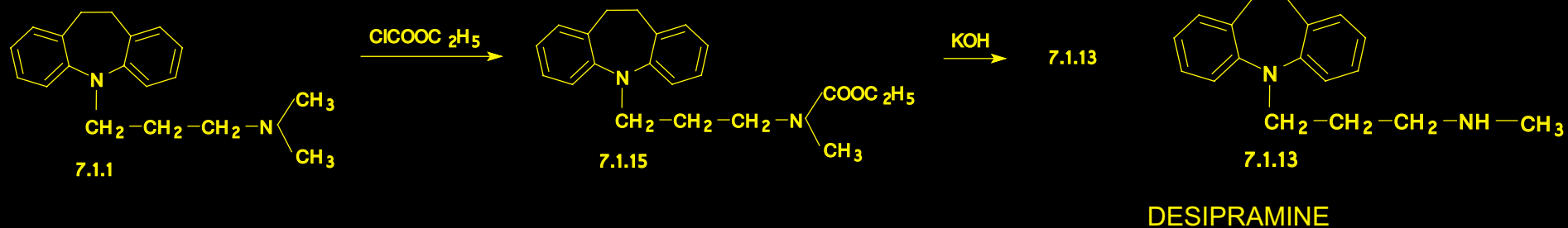


DESIPRAMINE

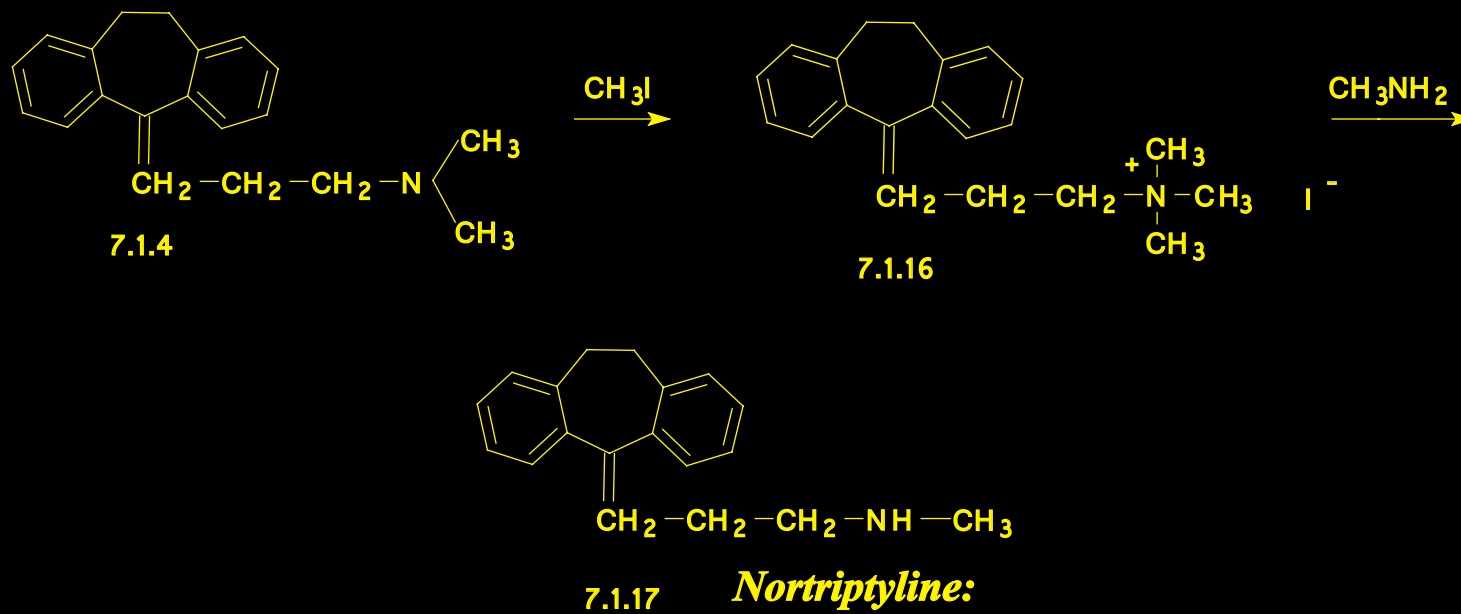


DESIPRAMINE

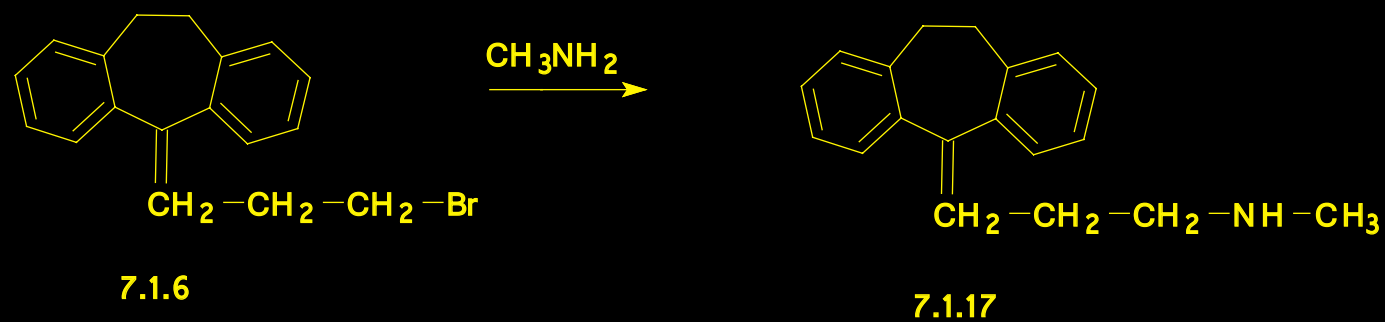
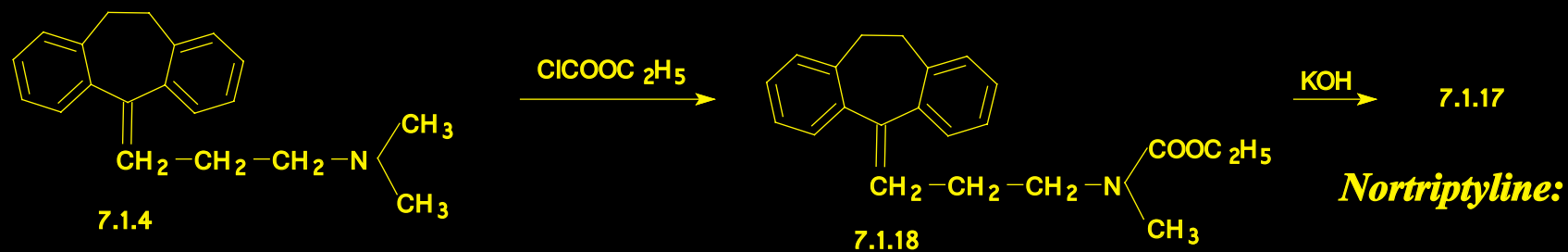
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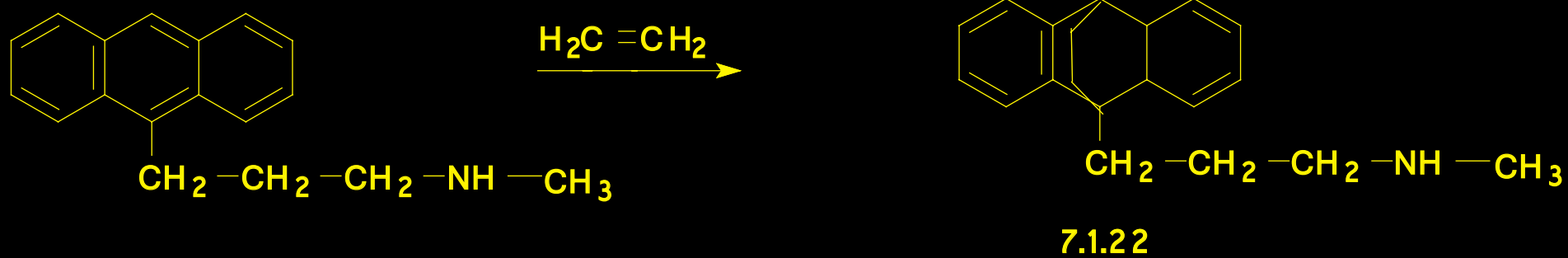
### *Nortriptyline:*



## TRICIKLIČNI ANTIDEPRESANTI (TCA)-SINTEZE

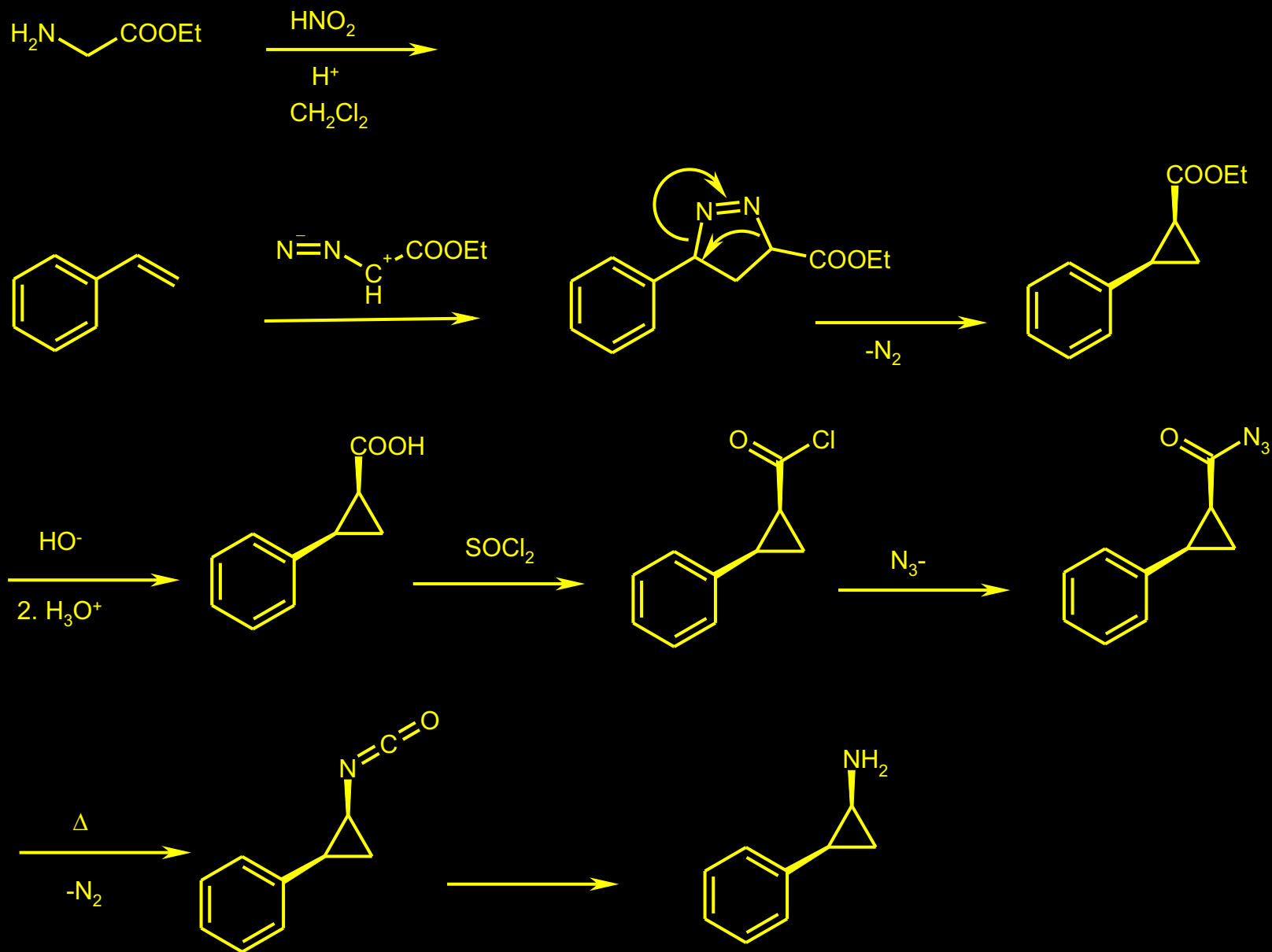


**Maprotiline:**



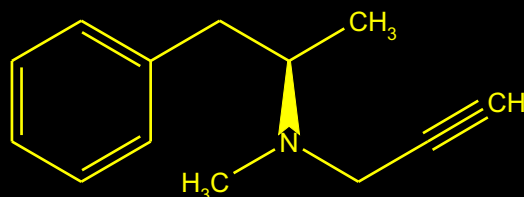
MAO INHIBITORI

TRANILCYPROMINE



## MAO INHIBITORI

Selegiline, a propargylamine, contains a reactive acetylenic bond and is relatively specific for MAO-B



**Monograph Number:** 8502

**Title:** Selegiline

**CAS Registry Number:** 14611-51-9

**CAS Name:** (±)-N,N-Dimethyl-N-2-propynylbenzeneethanamine

**Additional Names:** L-(-)-N,N-dimethyl-N-2-propynylphenethylamine; (-)-deprenil; L-deprenyl

**Molecular Formula:** C<sub>13</sub>H<sub>17</sub>N

**Molecular Weight:** 187.28.

**Percent Composition:** C 83.37%, H 9.15%, N 7.48%

**Literature References:** Monoamine oxidase-B inhibitor related structurally to pargyline, *q.v.* Prepn of racemate: **FR M 2635** (1964 to Chinoin), *C.A.* **63**, 2927e (1965); of (-)-form: **NL 6605956** (1966 to Chinoin), *C.A.* **67**, 21611y (1967); J. S. Fowler, *J. Org. Chem.* **42**, 2637 (1977). *See also:* Z. Ecsery *et al.*, **US 4564706** (1986 to Chinoin). Effects of racemate on CNS: J. Knoll *et al.*, *Arch. Int. Pharmacodyn.* **155**, 154 (1965). Comparative pharmacology of isomers: K. Magyar *et al.*, *Acta Physiol. Acad. Sci. Hung.* **32**, 377 (1967). Preliminary study in Alzheimer's disease: L. S. Schneider *et al.*, *Am. J. Psychiatry* **150**, 321 (1993). Review of pharmacology: E. H. Heinonen, R. Lammintausta, *Acta Neurol. Scand.* **84**, Suppl 136, 44-59 (1991); of efficacy in Parkinson's disease: D. W. Robin, *Am. J. Med. Sci.* **302**, 392-395 (1991). Symposium: *Mov. Disord.* **8**, Suppl. 1, S1-S44 (1993). Review of veterinary use in canine cognitive dysfunction: W. W. Ruehl, B. L. Hart in *Psychopharmacology of Animal Behavior Disorders*, N. H. Dodman, L. Shuster, Eds. (Blackwell Sci., Malden, Mass., 1998) pp 283-304.

**Properties:** Oil, bp<sub>0.8</sub> 92-93°. *n*<sub>D20</sub> 1.5180. [α]<sub>D20</sub> -11.2°.

**Boiling point:** bp<sub>0.8</sub> 92-93°

**Optical Rotation:** [α]<sub>D20</sub> -11.2°

**Index of refraction:** *n*<sub>D20</sub> 1.5180

**Derivative Type:** Hydrochloride

**CAS Registry Number:** 14611-52-0

**Trademarks:** Anipryl (Pfizer); Antiparkin (Asta); Atapryl (Athena); Amindan (Desitin); Carbex (Endo); Déprényl (Schering); Eldéprine (Schering); Eldepryl (Somerset); Jumex (Chiesi); Movergan (Orion); Plurimen (Asta); Selepark (Betapharm); Seletop (Azupharma); Zelapar (Athena)

**Molecular Formula:** C<sub>13</sub>H<sub>17</sub>N.HCl

**Molecular Weight:** 223.75.

**Percent Composition:** C 69.78%, H 8.11%, N 6.26%, Cl 15.84%

**Properties:** Crystals, mp 141-142°. [α]<sub>D25</sub> -10.8° (c = 6.48 in water). LD<sub>50</sub> in rats (mg/kg): 81 i.v., 280 s.c. (Magyar).

**Melting point:** mp 141-142°

**Optical Rotation:** [α]<sub>D25</sub> -10.8° (c = 6.48 in water)

**Toxicity data:** LD<sub>50</sub> in rats (mg/kg): 81 i.v., 280 s.c. (Magyar)

**Derivative Type:** (±)-Form

**CAS Registry Number:** 2323-36-6

**Additional Names:** Deprenyl; phenylisopropyl-N-methylpropinylamine

**Properties:** Oil, bp<sub>5</sub> 103-110°. *n*<sub>D20</sub> 1.5224.

**Boiling point:** bp<sub>5</sub> 103-110°

**Index of refraction:** *n*<sub>D20</sub> 1.5224

**Derivative Type:** (±)-Form hydrochloride

**Manufacturers' Codes:** E-250

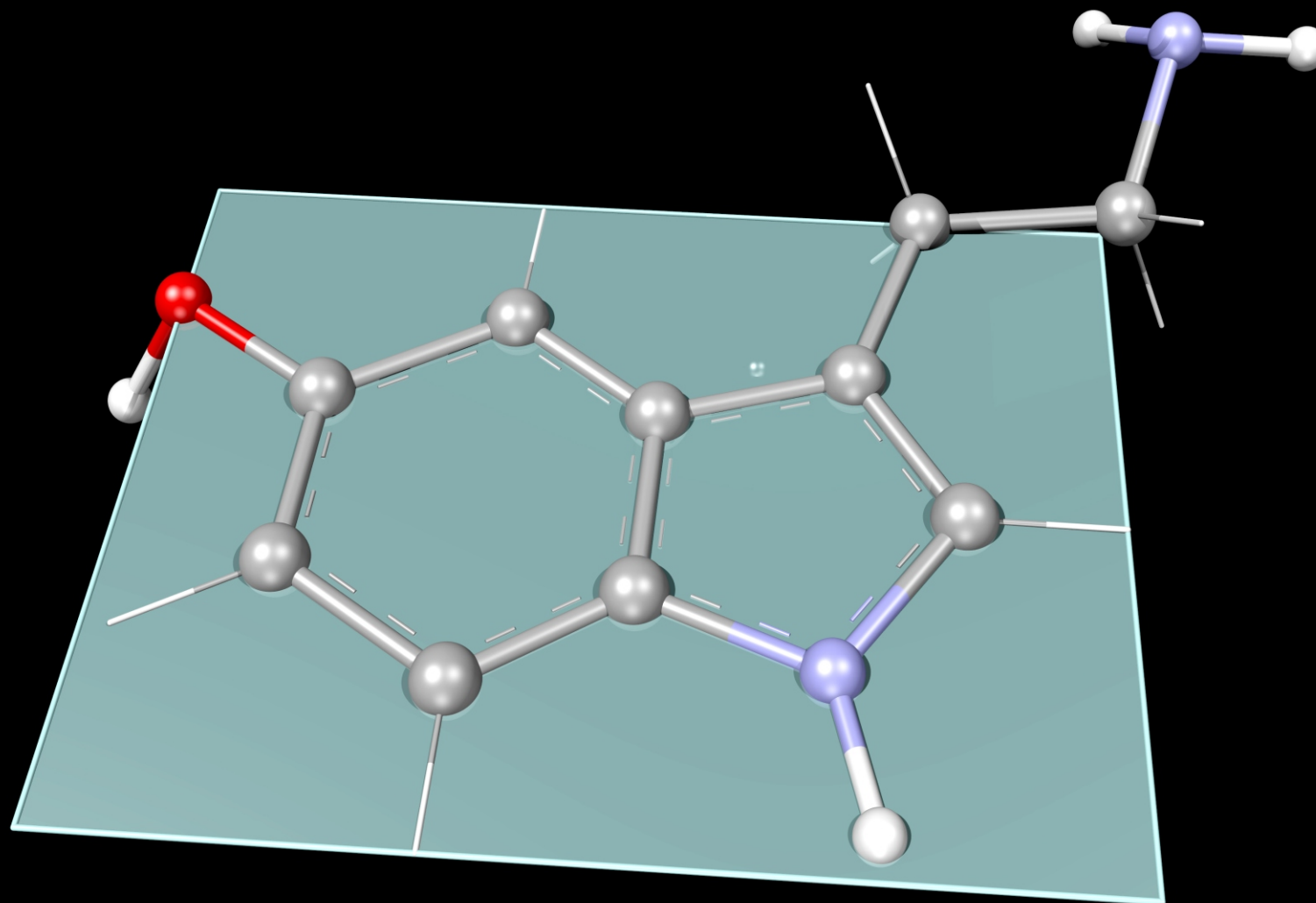
**Properties:** LD<sub>50</sub> in rats (mg/kg): 63 i.v., 126 s.c., 385 orally (Knoll).

**Toxicity data:** LD<sub>50</sub> in rats (mg/kg): 63 i.v., 126 s.c., 385 orally (Knoll)

**Therap-Cat:** Antiparkinsonian.

**Therap-Cat-Vet:** In treatment of canine cognitive dysfunction syndrome.

SSRI - SELECTIVE SEROTONINE RE-UPTAKE INHIBITORS (SELEKTIVNI INHIBITORI REAPSORPCIJE SEROTONINA)



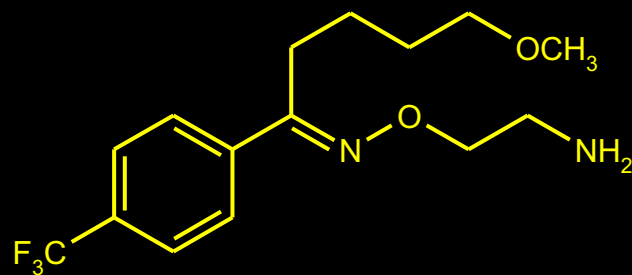
SEROTONIN



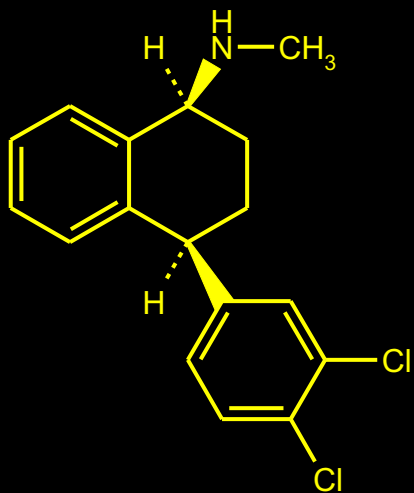
SSRI - PAROXETINE, SERTALINE, FLUVOXAMINE, FLUOXETINE, CITALOPRAM



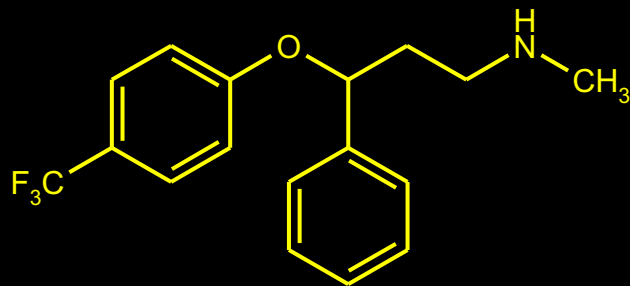
Paroxetine



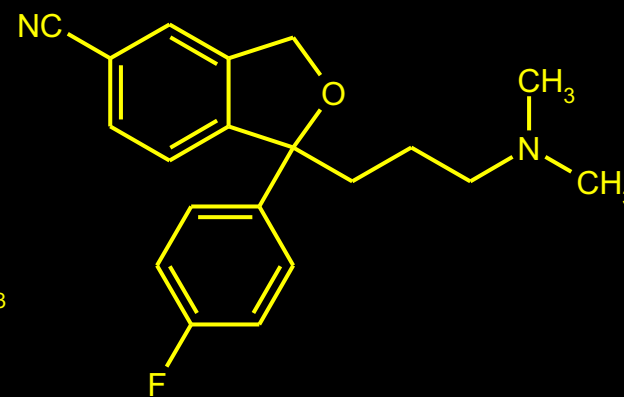
Fluvoxamine



Sertraline

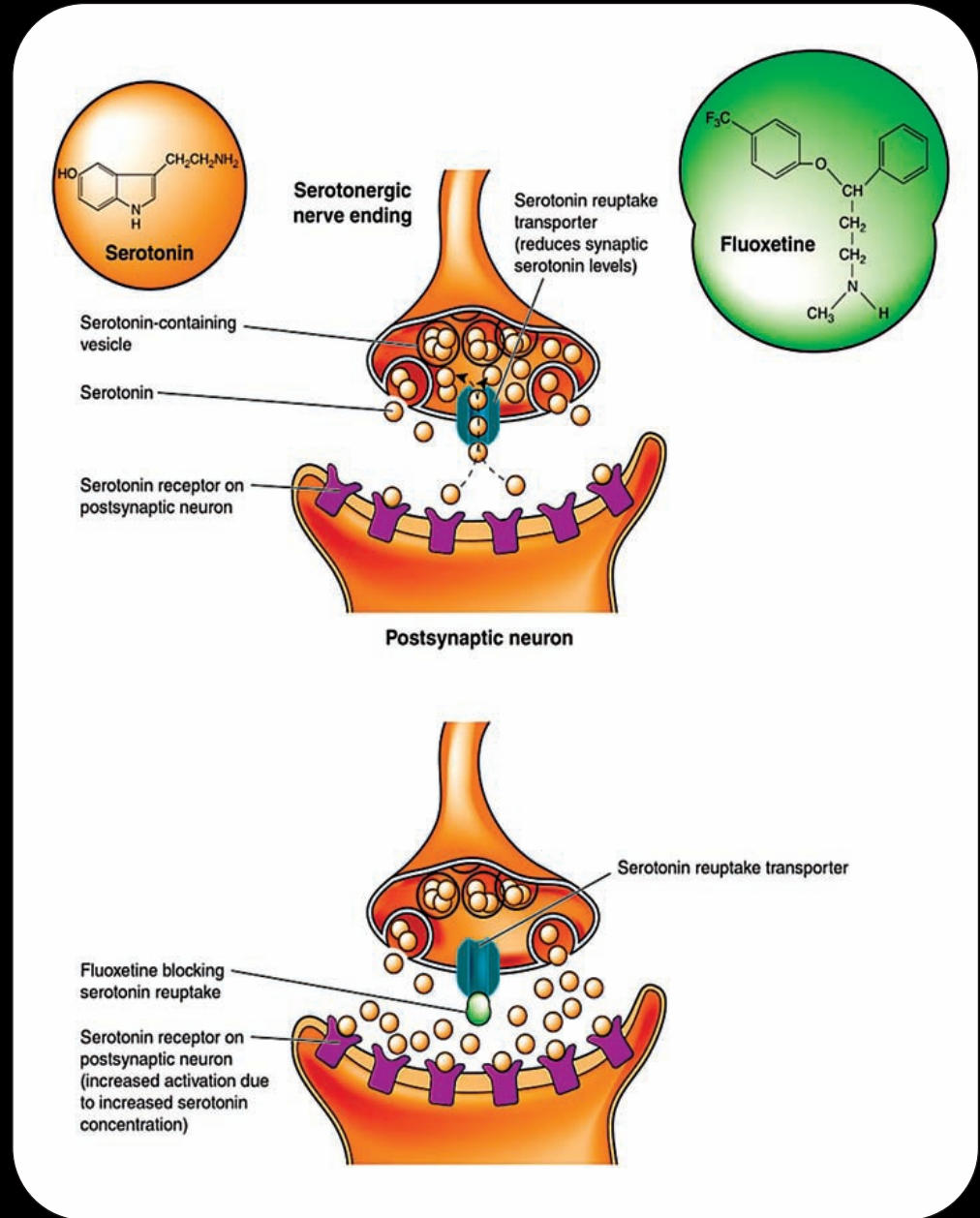


Fluoxetine

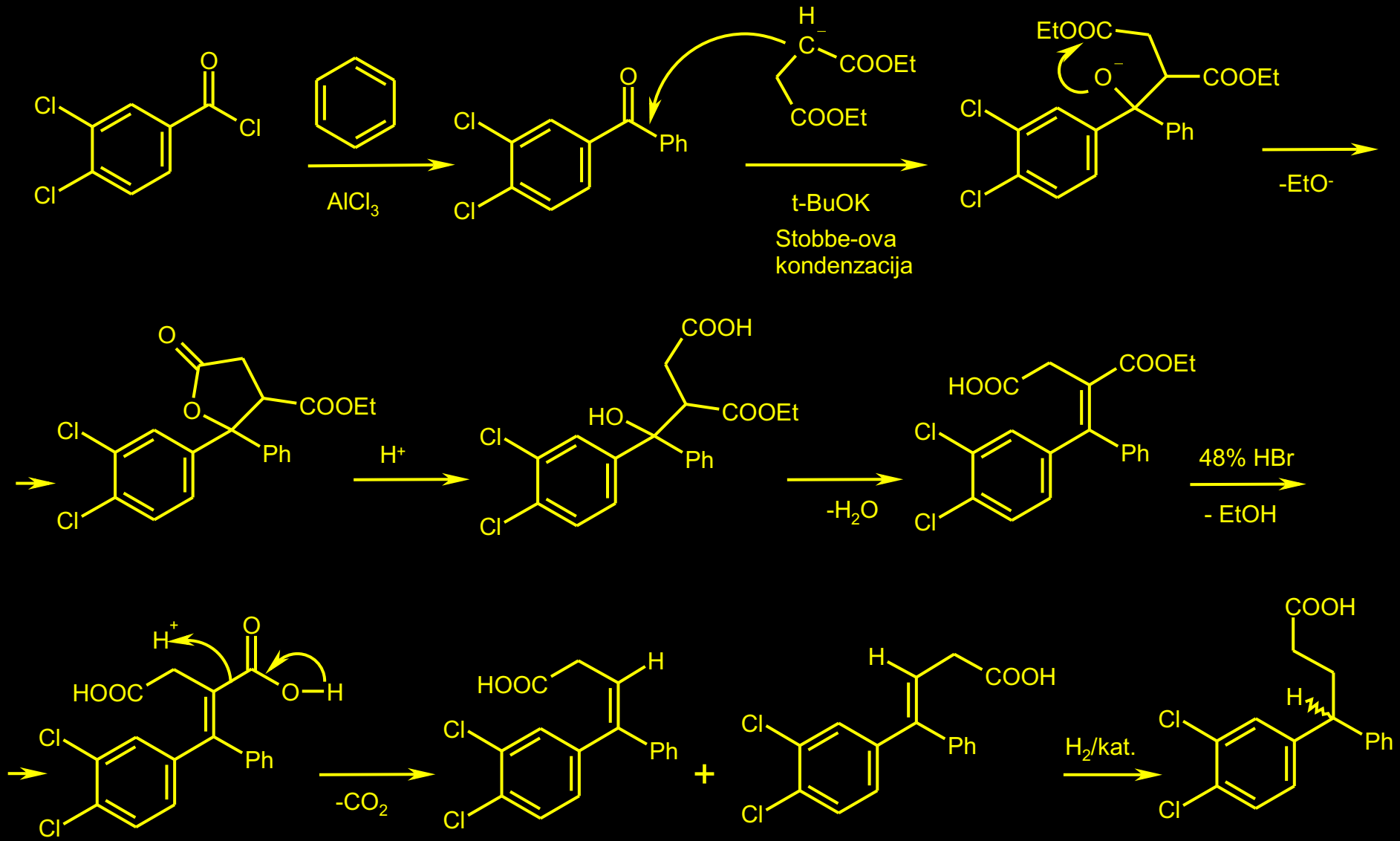


Citalopram

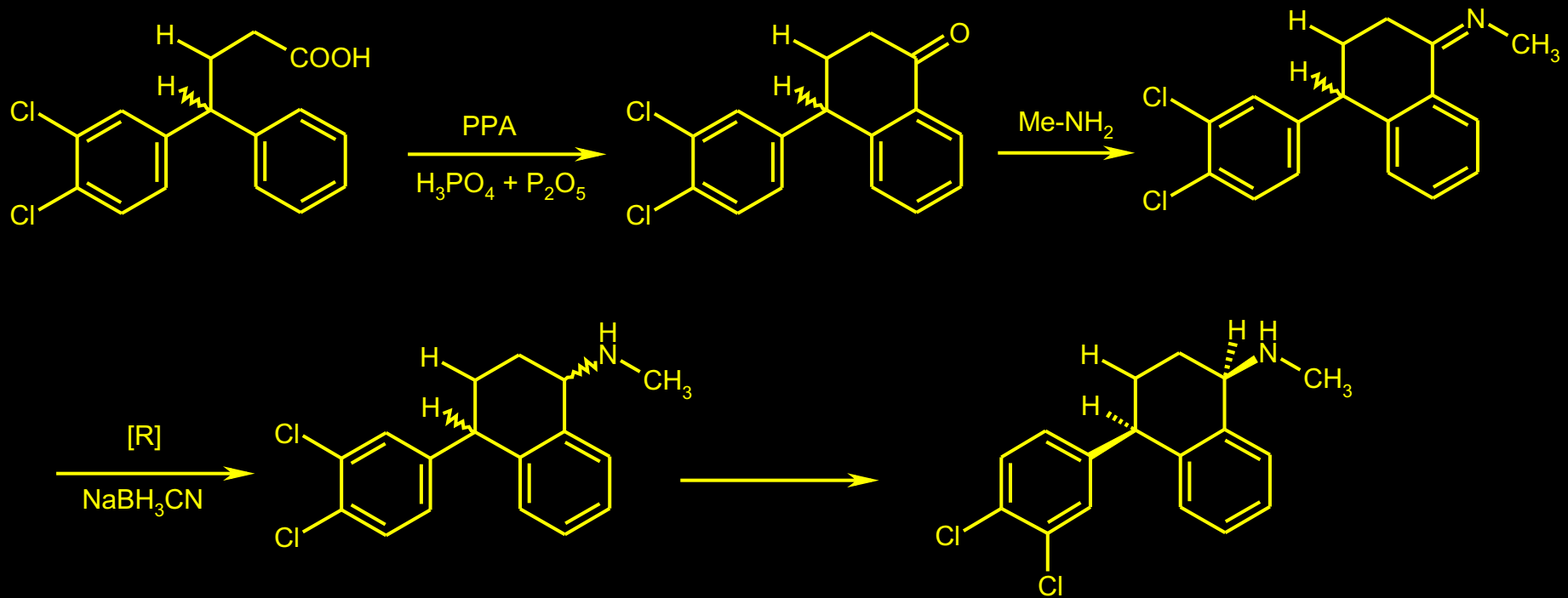
# SELEKTIVNI INHIBITORI REAPSORPCIJE SEROTONINA - MEHANIZAM DEJSTVA



INDUSTRIJSKA SINTEZA SERTRALINE-a

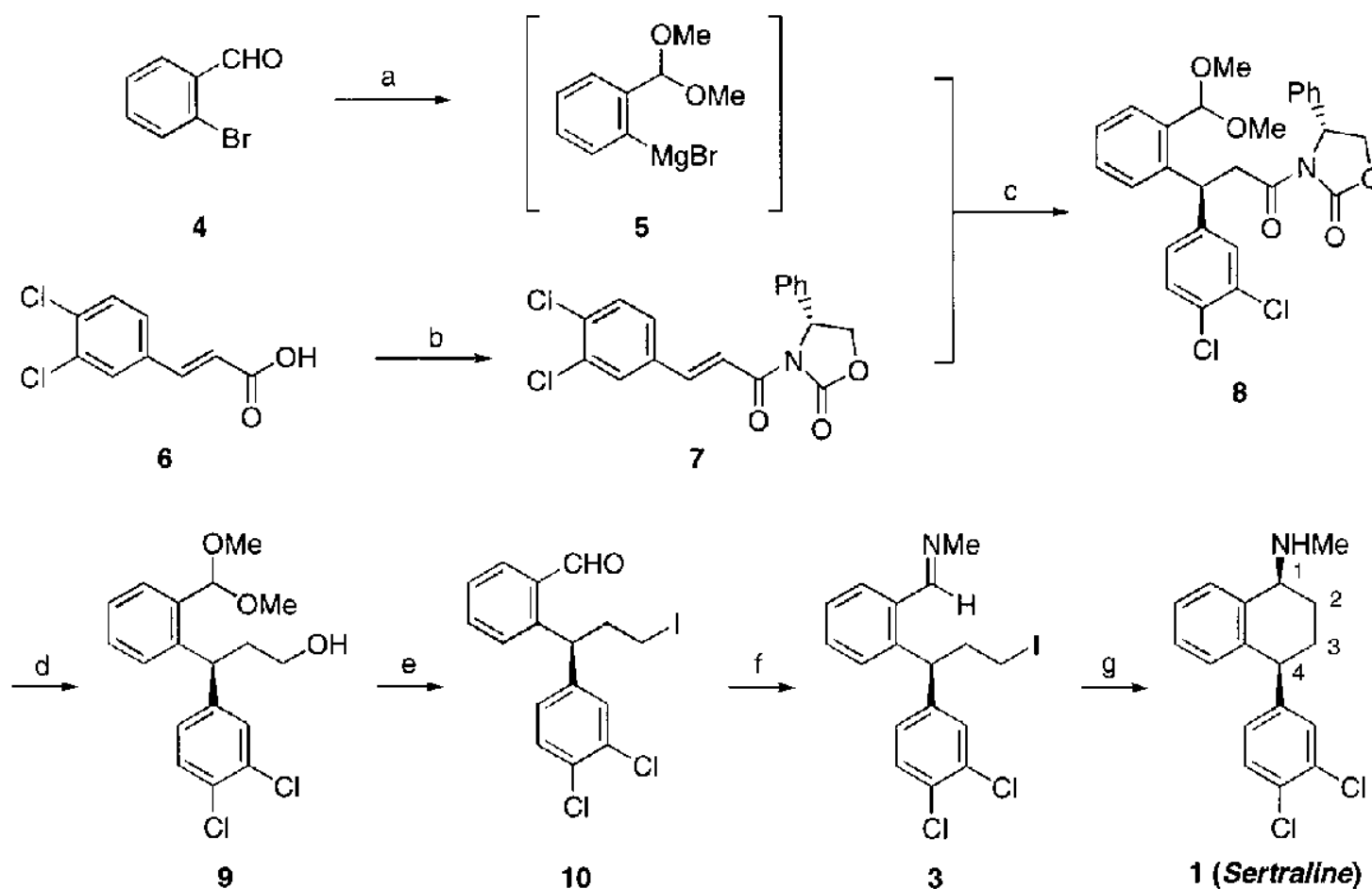


INDUSTRIJSKA SINTEZA SERTRALINE-a



## SAVREMENA LABORATORIJSKA STEREOSELEKTIVNA SINTEZA SERTRALINE-a

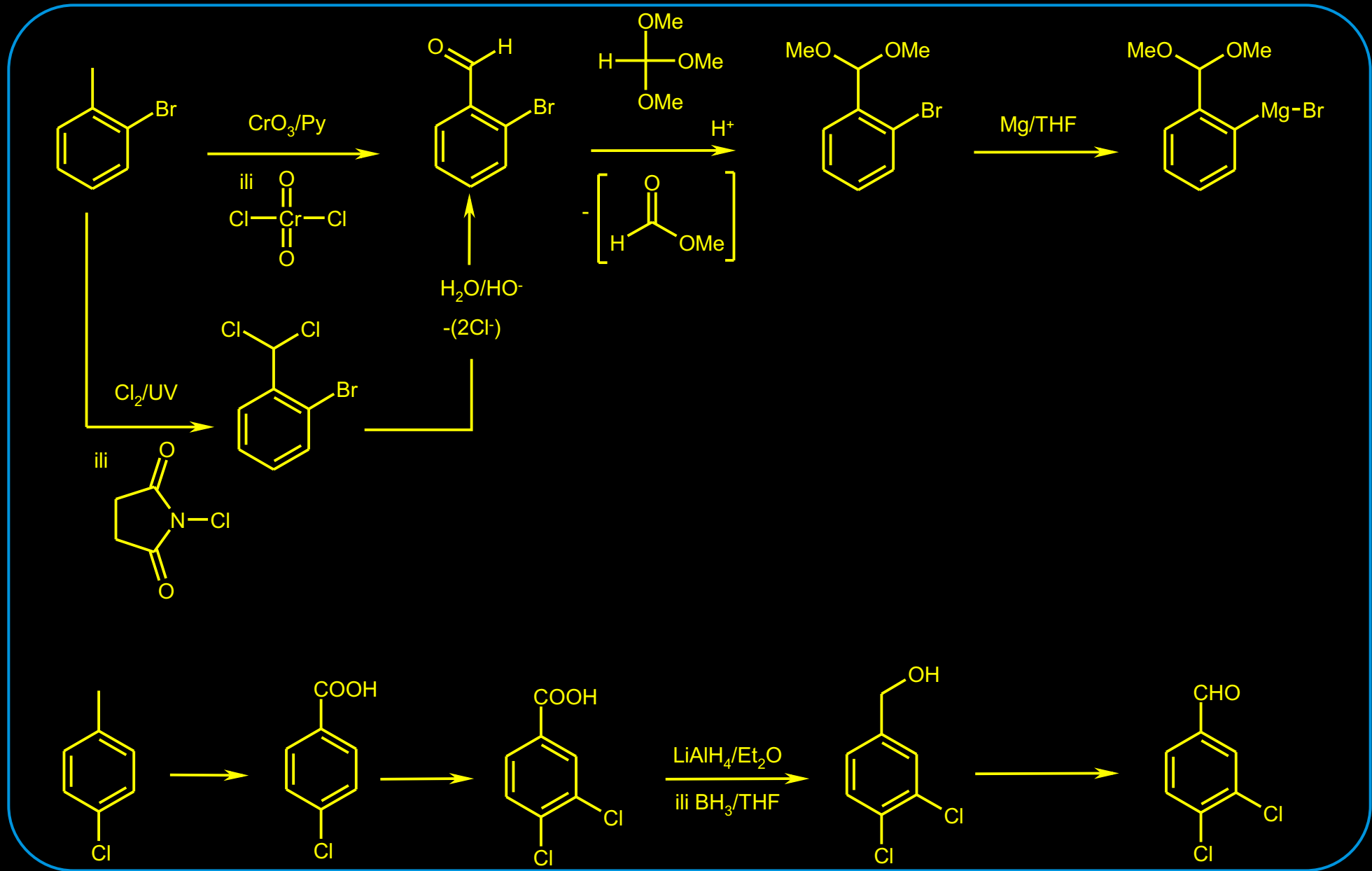
Scheme 1



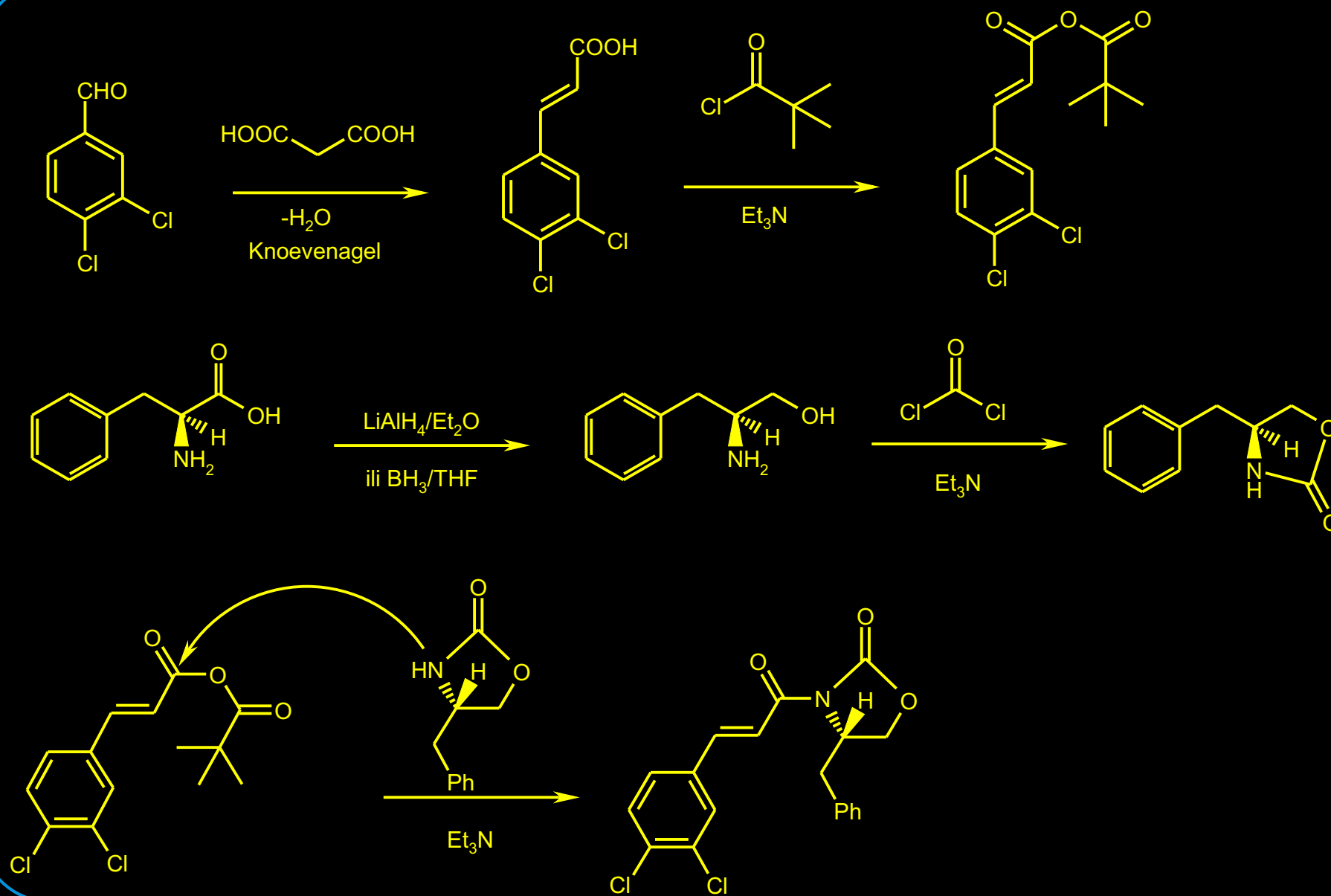
Conditions: a) 1.  $(\text{MeO})_3\text{CH}$ , MeOH, cat. *p*-TsOH, 2. Mg, THF; b)  $\text{Me}_3\text{CCOCl}$ ,  $\text{Et}_3\text{N}$ , LiCl, (*S*)-2-phenyl oxazolidine; c) 0.2 eq  $\text{CuBrSMe}_2$ , THF,  $-30\text{ }^\circ\text{C}$  to  $0\text{ }^\circ\text{C}$ ; d)  $\text{NaBH}_4$  (3 eq), THF- $\text{H}_2\text{O}$ ; e) 1.  $\text{PPh}_3\text{-I}_2\text{-imidazole}$ , 2. 2 N HCl; or 1.  $\text{MsCl}$ ,  $\text{Et}_3\text{N}$ , 2. excess NaI, acetone,  $\Delta$ ; f) 2.0 M  $\text{MeNH}_2$  in THF; g) *t*-BuLi (2.0 eq) in THF-toluene,  $-78\text{ }^\circ\text{C}$ .

Efficient Enantioselective Synthesis of Sertraline, a Potent Antidepressant, via a Novel Intramolecular Nucleophilic Addition to Imine Cheng-yi Chen\* and Robert A. Reamer, *Organic Letters*, 1999 1, 293

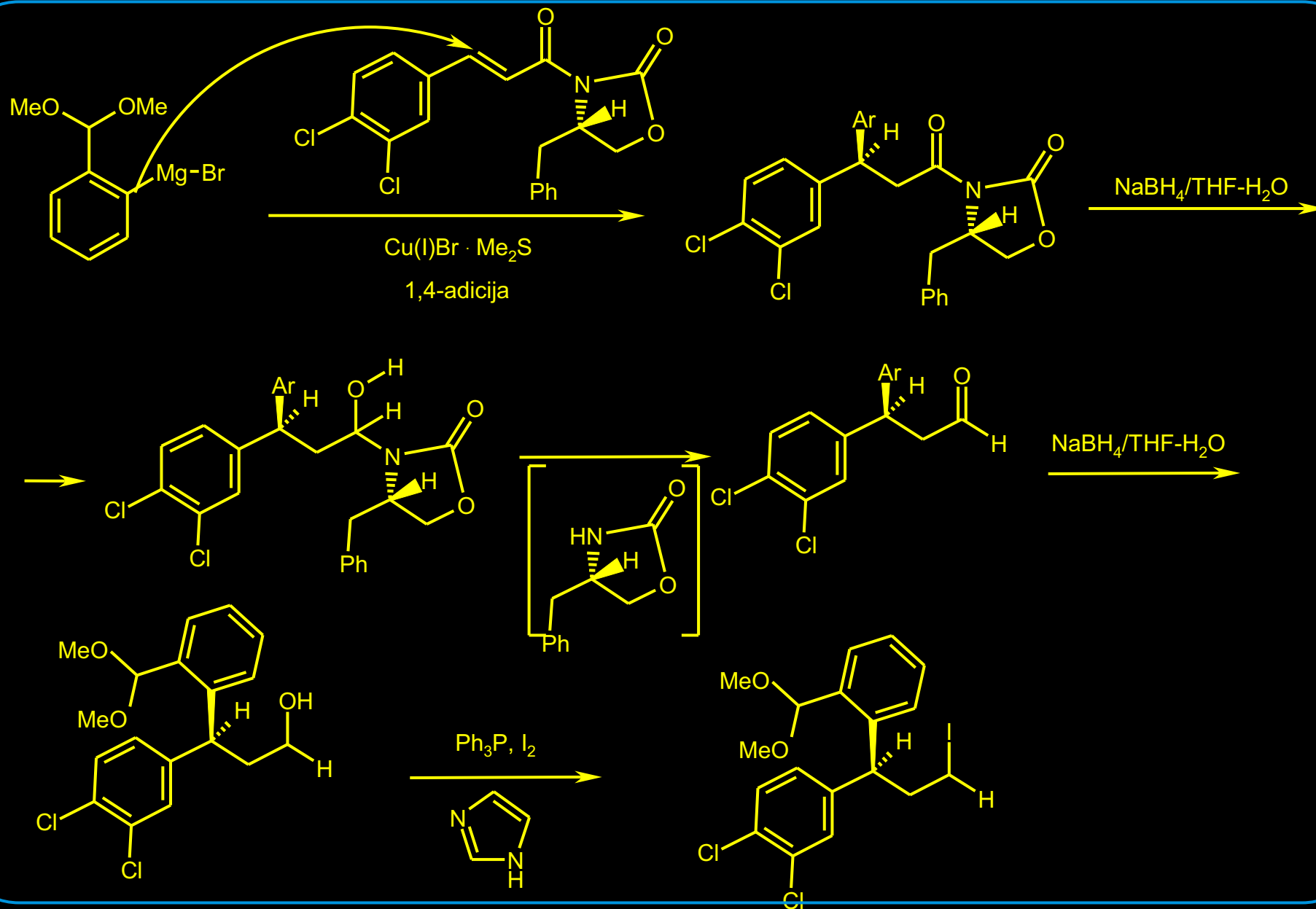
SAVREMENA LABORATORIJSKA STEREOSELEKTIVNA SINTEZA SERTRALINE-a



## SAVREMENA LABORATORIJSKA STEREOSELEKTIVNA SINTEZA SERTRALINE-a - nastavak

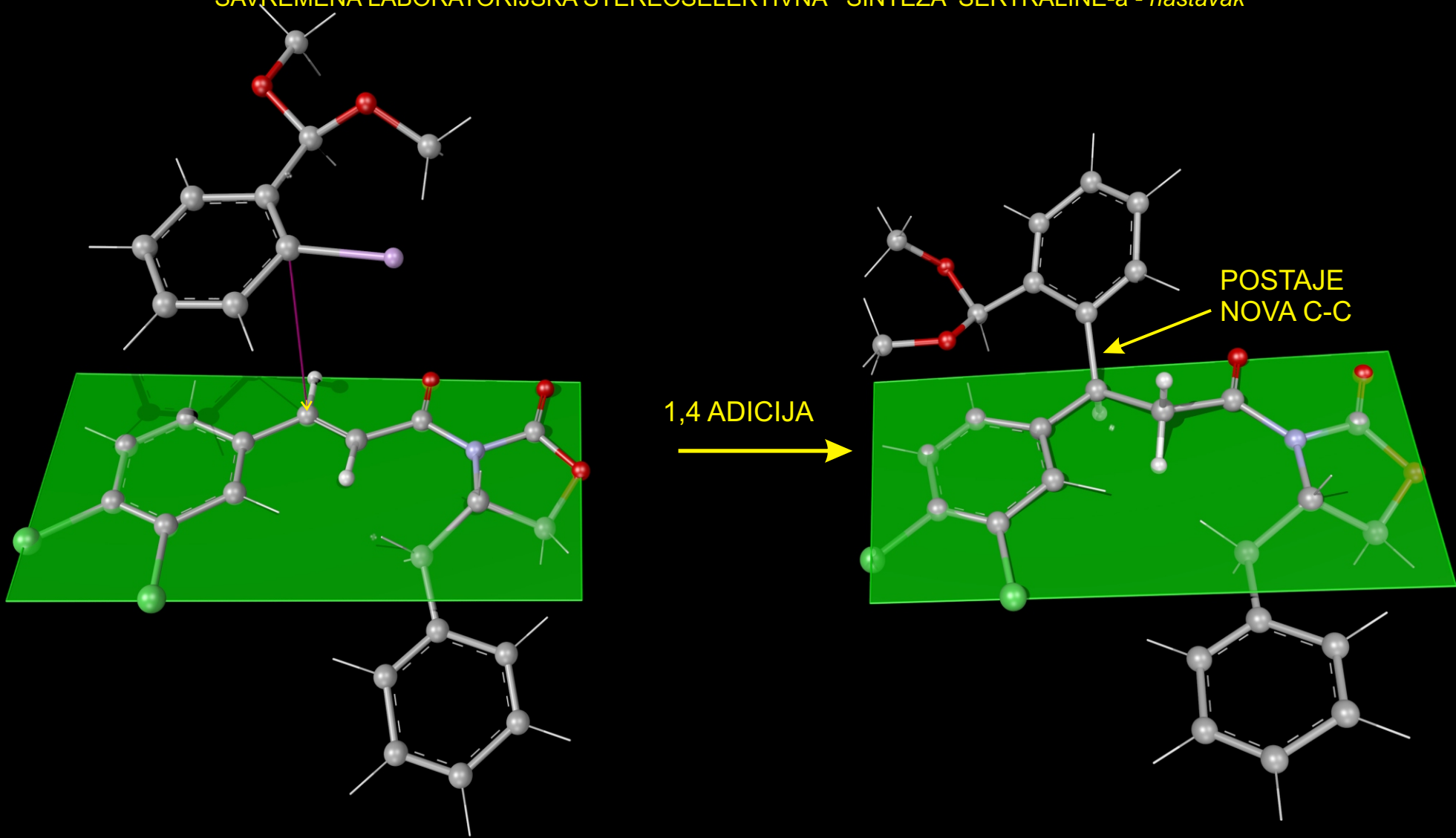


## SAVREMENA LABORATORIJSKA STEREOSELEKTIVNA SINTEZA SERTRALINE-a - nastavak

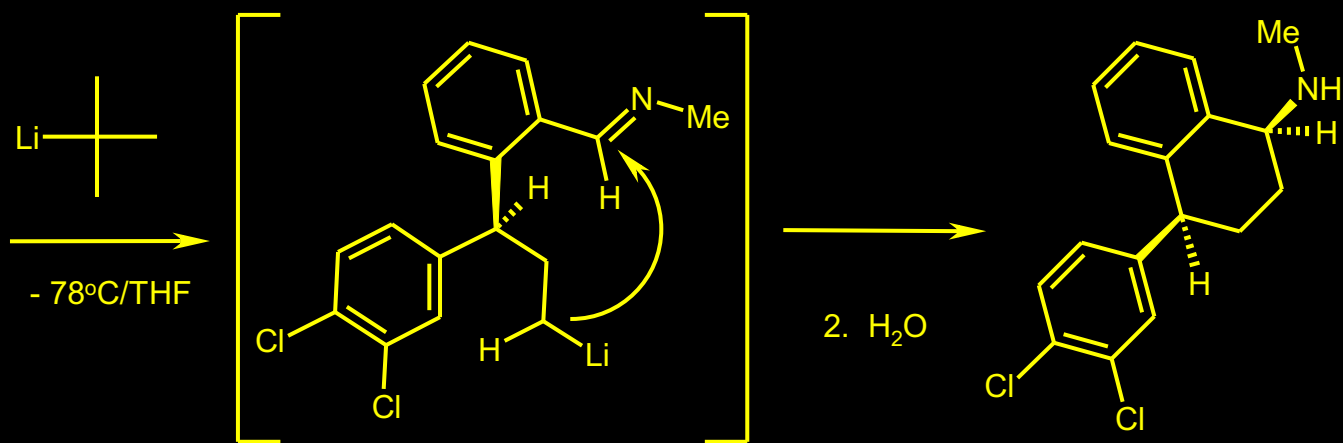
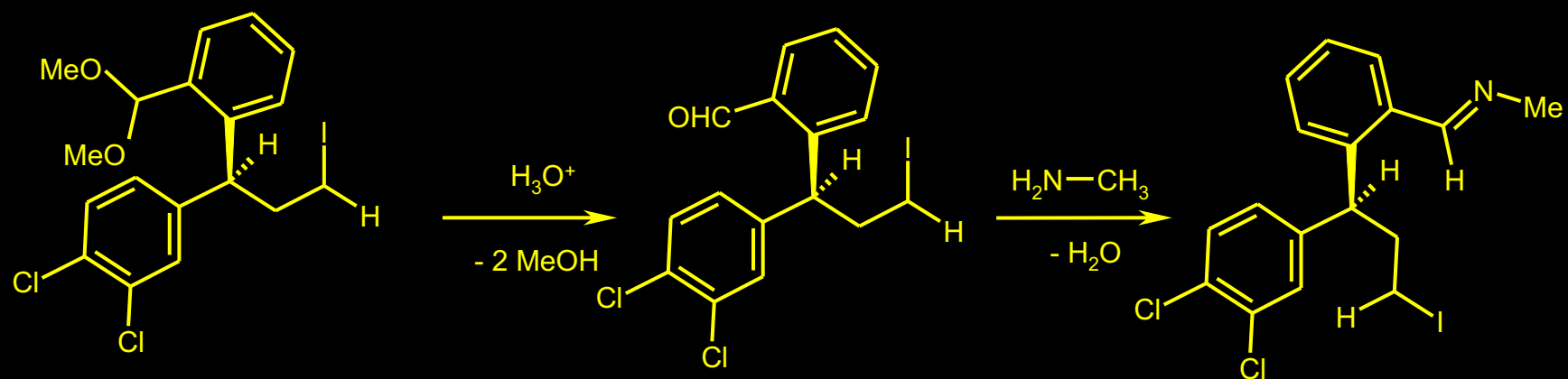


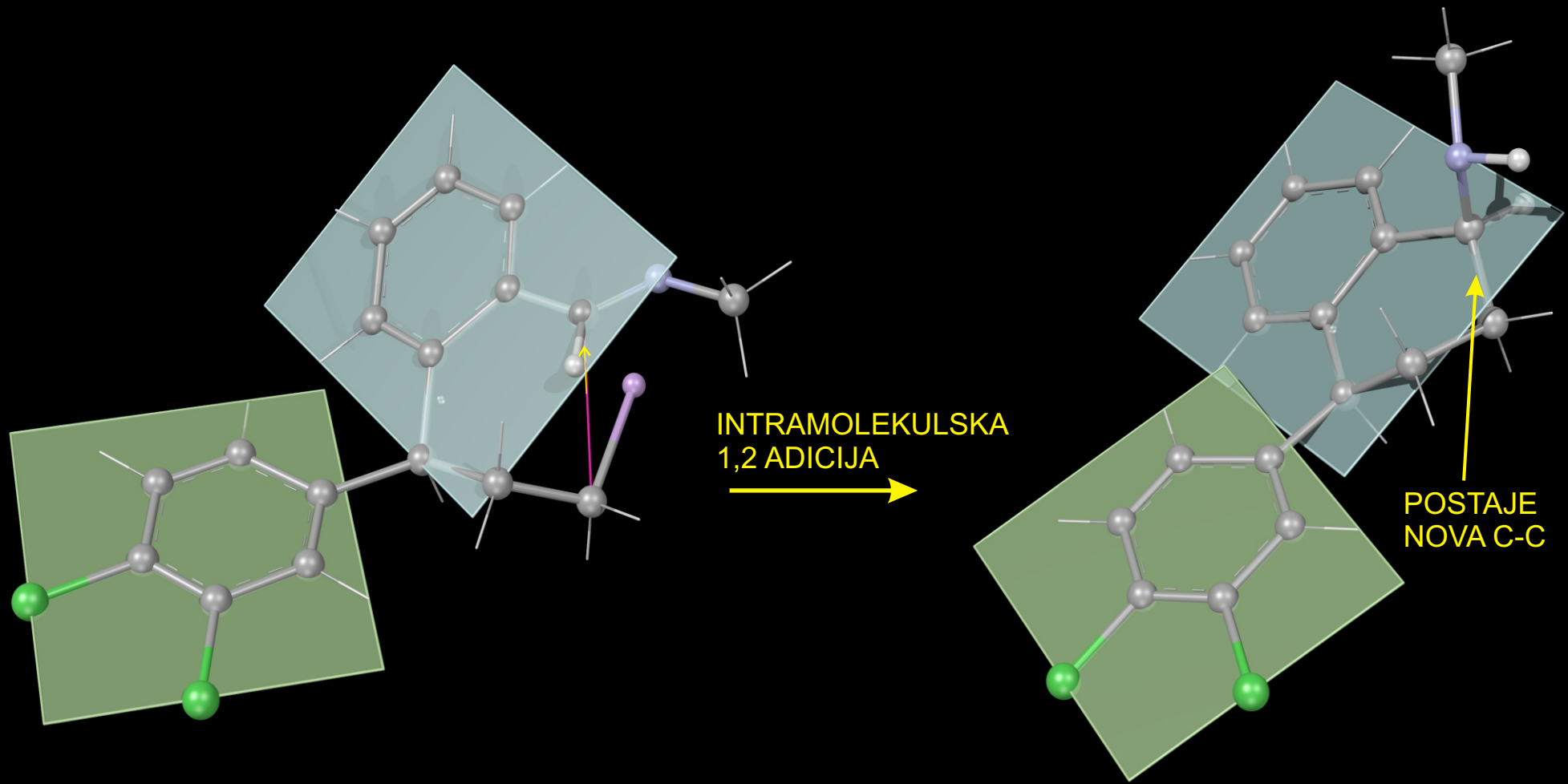


SAVREMENA LABORATORIJSKA STEREOSELEKTIVNA SINTEZA SERTRALINE-a - nastavak

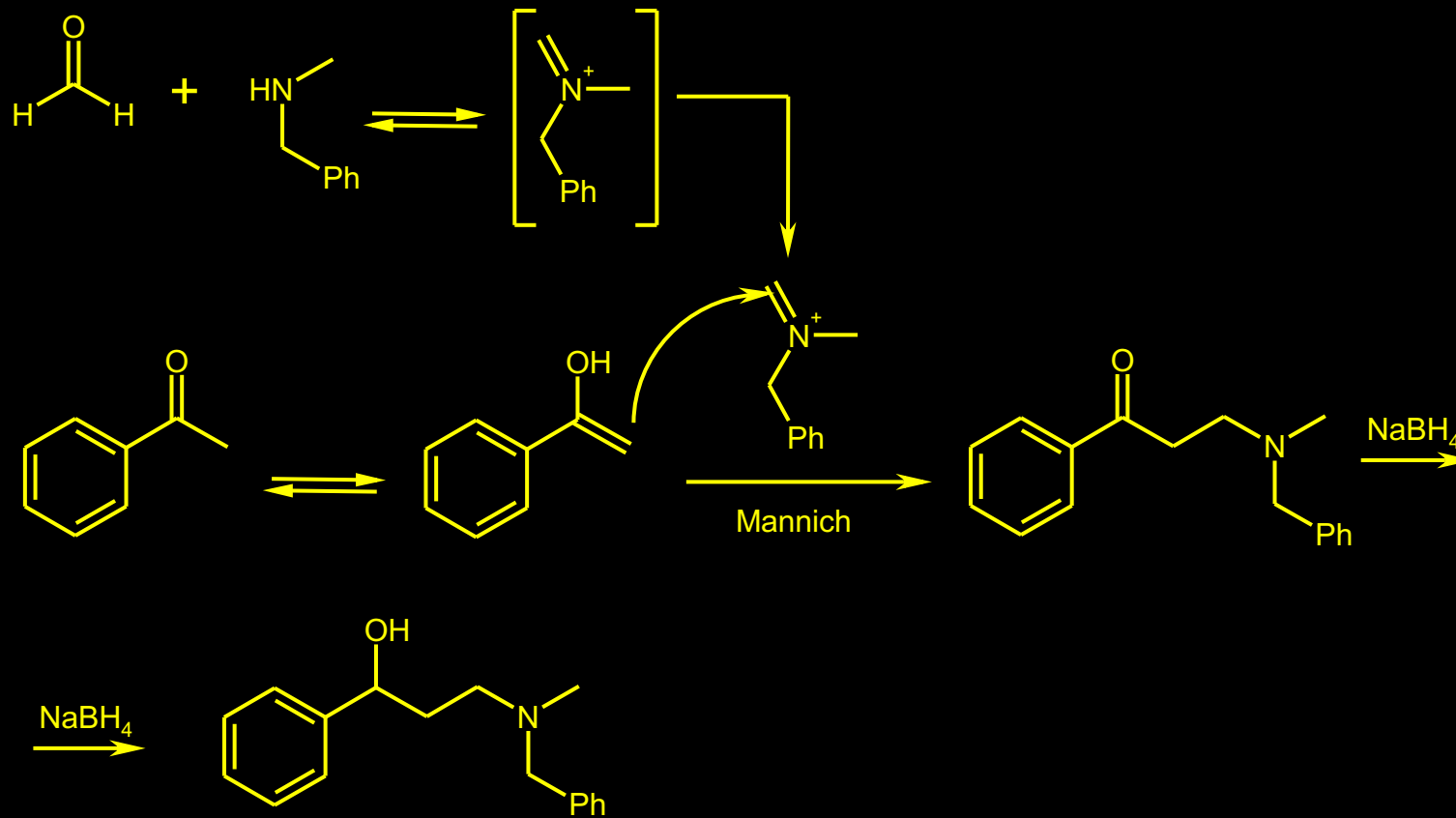


## SAVREMENA LABORATORIJSKA STEREOSELEKTIVNA SINTEZA SERTRALINE-a - nastavak





# SINTEZA PROZAC-a



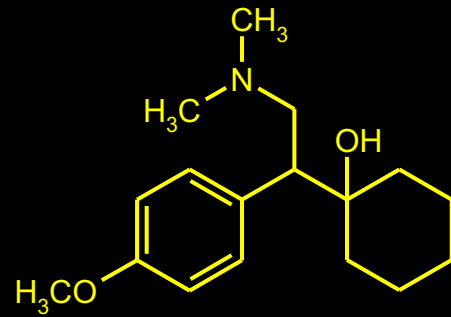
# SINTEZA PROZAC-a - NASTAVAK



ANTI-DEPRESANTI DRUGE GENERACIJE Venlafaxine, Mirtzapine, Bupropion, Trazodone, Nefazadone



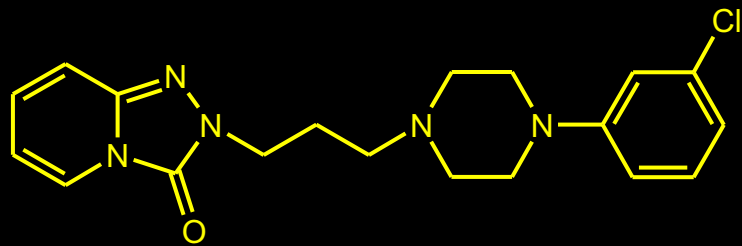
Bupropion



Venlafaxine



Mirtazapine

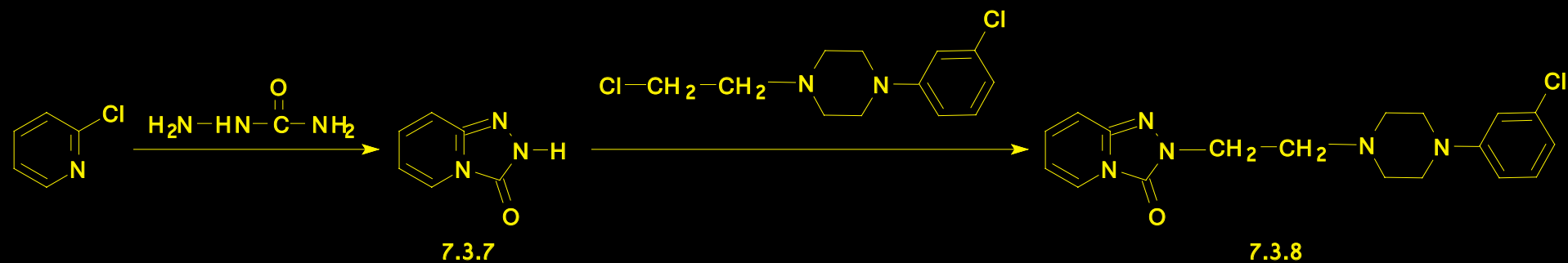
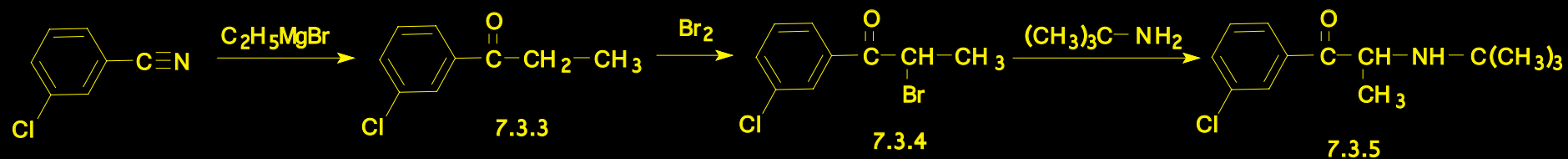


Trazodone



Nefazadone

ANTI-DEPRESANTI DRUGE GENERACIJE Venlafaxine, Mirtzapine, Bupropion, Trazodone, Nefazadone



**Trazodone:**