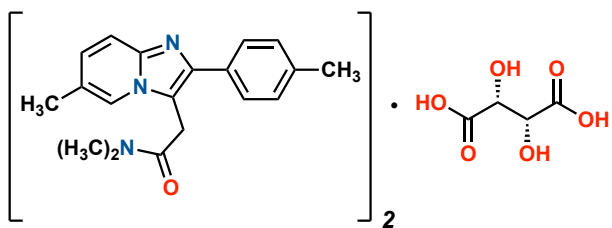
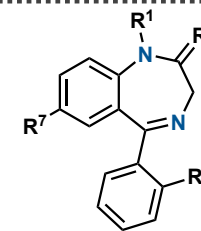


## Ambien® (Zolpidem Tartrate)



Ambien® (zolpidem tartrate)

- Characterized by a strong hypnotic effect,
- Weak anticonvulsant and muscle-relaxant properties,
- Selectivity for benzodiazepine receptors with the biochemical characteristics and regional distribution of the benzodiazepine one subtype.
- Interacts with gamma-aminobutyric acid (GABA)-benzodiazepine receptor complex and shares some pharmacological properties of the benzodiazepines.



general benzodiazepine structure

**side effects:**

- "Drowsiness, dizziness, diarrhea, grogginess or feeling as if you have been drugged."
- "After taking AMBIEN®, you may get up out of bed while not being fully awake and do an activity that you do not know you are doing. The next morning, you may not remember that you did anything during the night"

from Sanofi medication guide for AMBIEN®

**recent controversy:**

from Sanofi's twitter page: <https://twitter.com/SanofiUS>

**A Drug That Wakes the Near Dead**

By JENEEN INTERLANDI • DEC. 1, 2011

A mother describes the surprising effect that the pharmaceutical sleeping drug Ambien has had on her brain-damaged son.

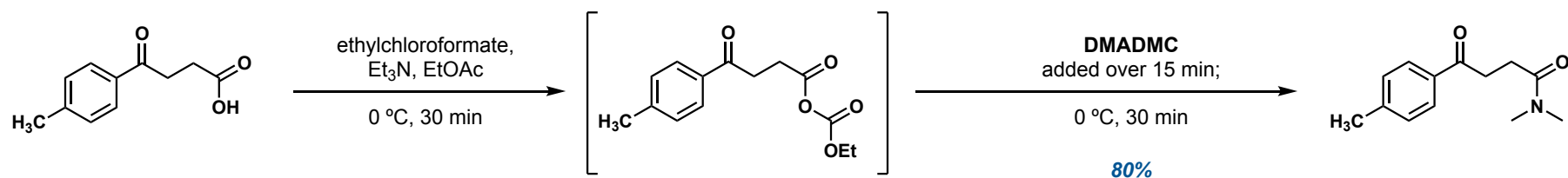
By Stephanie Sinclair/VIII Brent McDonald on December 1, 2011. [Watch in Times Video »](#)

"The first report of a zolpidem awakening came from South Africa, in 1999. A patient named Louis Viljoen, who, three years before, was declared vegetative after he was hit by a truck, had taken to clawing at his mattress during the night. Thinking he was suffering from insomnia, his family doctor suggested zolpidem to help him sleep. But 20 minutes after his mother ground the tablet up and fed it to him through a straw, Viljoen began to stir. His eyes, which normally wandered the room, vacant and unfocused, flickered with the light of consciousness. And then he began to talk (his first words were "Hello, Mummy"), and move (he could control his limbs and facial muscles). A few hours later he became unresponsive. But the next day, and for many days after that, zolpidem revived him, a few hours at a time." <https://www.nytimes.com/2011/12/04/magazine/can-ambien-wake-minimally-conscious.html>

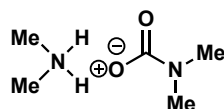
**J. A. Sutton & R. P. Clauss:** A review of the evidence of zolpidem efficacy in neurological disability after brain damage due to stroke, trauma, and hypoxia: A justification of further clinical trials, *Brain Injury* **2017**, 31:8, 1019.

"The extent of reports of clinical recoveries when patients with brain damage are given zolpidem indicates that further clinical trials of zolpidem are justified. Reports include evidence of renewed neuronal activity within infarctions that had been considered irretrievably dead, which implies recoveries beyond mere stimulation. The unique nature of the effect, a markedly positive risk-benefit ratio and the extent of the profound unmet need further indicate the urgency of continued development."

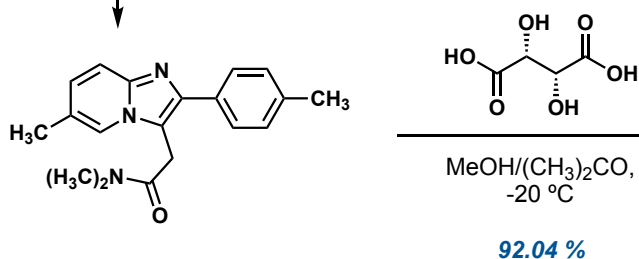
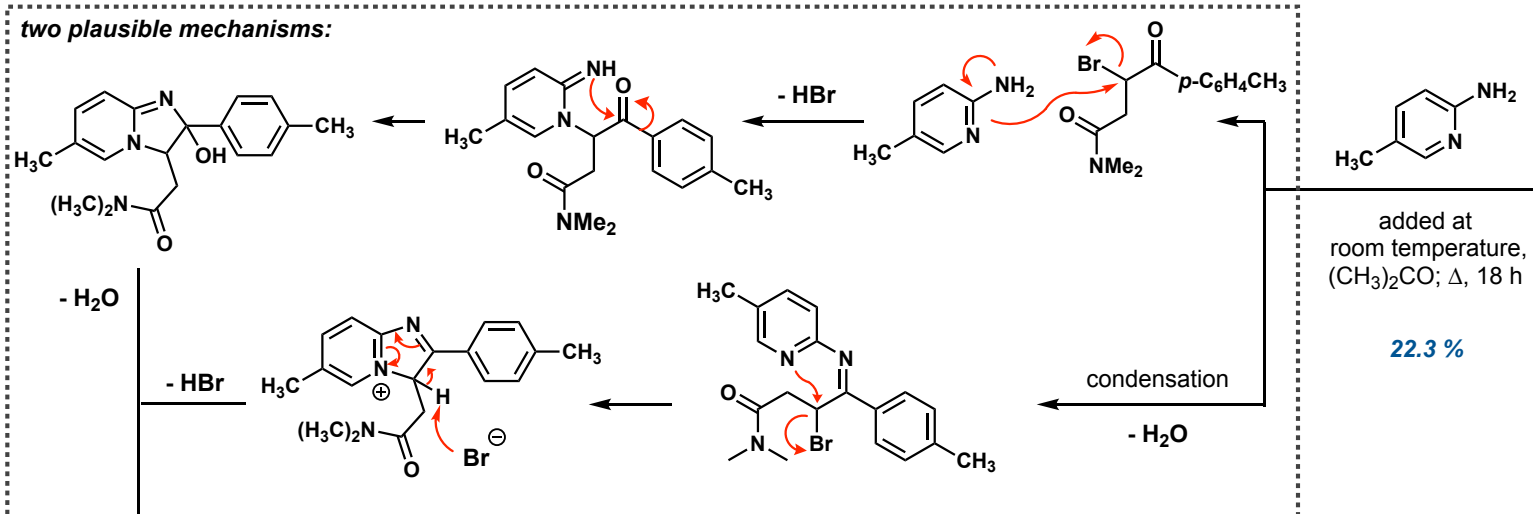
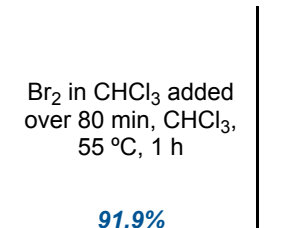
## Ambien® (Zolpidem Tartrate)



**DMADMC** = N,N-dimethylammonium N',N'-dimethyl carbamate  
CAS Registry No. 4137-10-4



- liquid at room temperature
- miscible with most organic solvents
- serves as an active carrier of dimethylamine



Ambien® (zolpidem tartrate)

