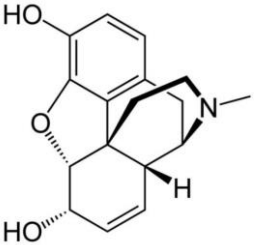
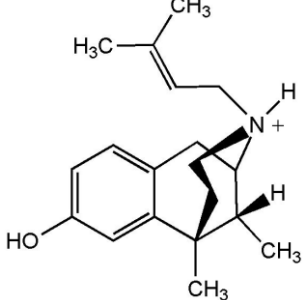
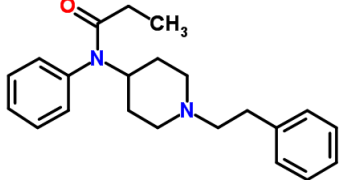
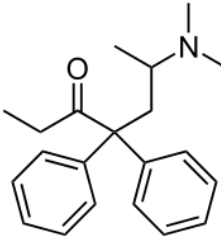
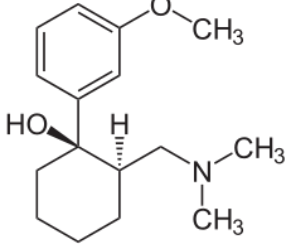
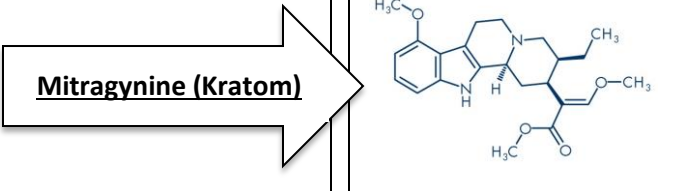


Chemical Classes of Opioids (Updated 11/1/2020)

| PHENANTHRENES | BENZOMORPHANS | PHENYLPIPERIDINES | DIPHENYLHEPTANES | PHENYLPROPYL AMINES |
|--|---|---|--|---|
|  |  |  |  |  |
| MORPHINE | PENTAZOCINE | FENTANYL | METHADONE | TRAMADOL |
| Buprenorphine* Butorphanol* Codeine Dextromethorphan* Dihydrocodeine Heroin (diacetyl-morphine) Hydrocodone* Hydromorphone* Levorphanol* Methylnaltrexone** Morphine (Opium, conc) Nalbuphine* Naloxone* Naloxegol* Naltrexone** Oxycodone* Oxymorphone* | Pentazocine | Alfentanil Fentanyl Remifentanyl Sufentanil Meperidine Diphenoxylate ^a Loperamide ^a | Methadone Propoxyphene | Tapentadol Tramadol |
| | | Fentalogues Illicit Fentanyl Analogues | | |
| | | Furanyl fentanyl Acetyl fentanyl Fluoro-fentanyl Carfentanil Others ^b |  | |
| CROSS-SENSITIVITY RISK | | | | |
| PROBABLE | POSSIBLE | LOW RISK | LOW RISK | LOW RISK |
| *Agents lacking the 6-OH group of morphine, possibly decreases cross-tolerability within the phenanthrene group **6-position is substituted with a ketone group and tolerability is similar to hydroxylation | | | | |

Jeffrey Fudin, BSP Pharm, PharmD, DAIPM, FCCP, FASHP, FFSMB

<http://paindr.com/resources/quick-references/> (See "Opioid Chemistry")

- Previously incorrectly listed as "Benzomorphans"
- Bettinger JJ, Trotta ND, Fudin J, Wegrzyn EL, Schatman ME. Understanding the differences between pharmaceutical and illicit fentanyl and their analogues could save the opioid crisis. *Practical Pain Management*. 2018. July/August 18(5):59-67.