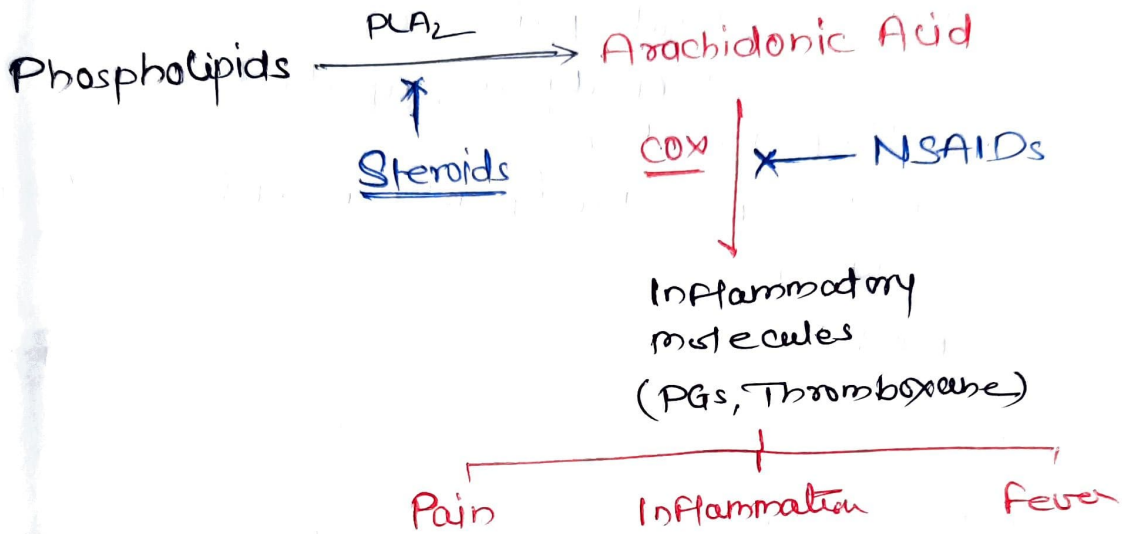


ANTI-INFLAMMATORY AGENTS

NON-NARCOTIC ANALGESIC DRUGS

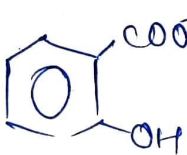
NON-STEROIDAL ANTI-INFLAMMATORY DRUGS



DRUGS -

Sod. Salicylate, Aspirin, Mefenamic acid*,
Meclofenamate, Indomethacin, Sulindac,
Tolmetin, Zomepirate, Diclofenac, Ketorolac,
Ibuprofen*, Naproxen, Piroxicam, Phenacetin,
Acetaminophen, Antipyrine, phenylbutazone

① Sodium Salicylate

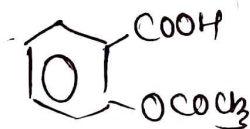


Sod. 2-hydroxy benzoate

MIOA - Selective COX-1 inhibitor

- uses -
- # Analgesic & antipyretic
 - # Rheumatoid disease
 - # to induce Apoptosis & Necrosis in cancer cell.

② Aspirin

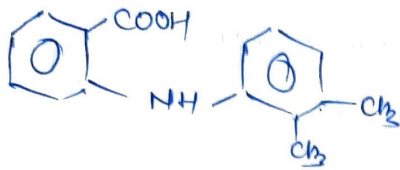


O-acetyl salicylic acid

MIOA \rightarrow COX-1

- uses -
- # Acute & chronic Rheumatoid arthritis
 - # Analgesic, Antipyretic & anti-inflammatory
 - # antiplatelets activity - MI, Angina

③ Mefenamic Acid*

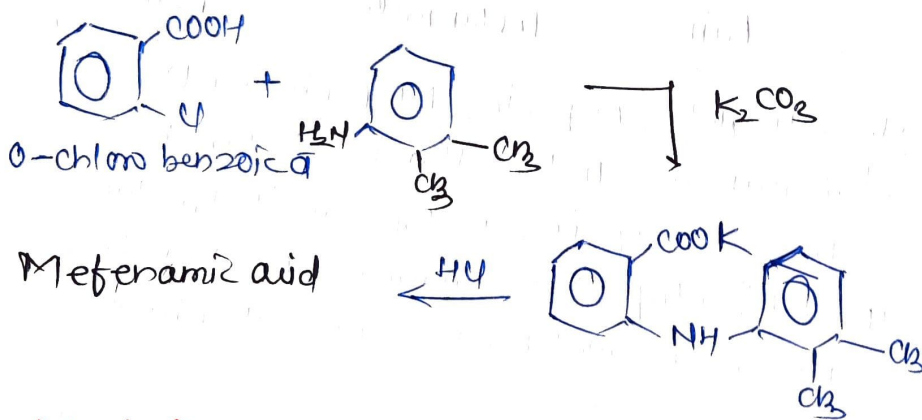


N-(2,3-dichloro-5-methylphenyl)-anthranilic acid

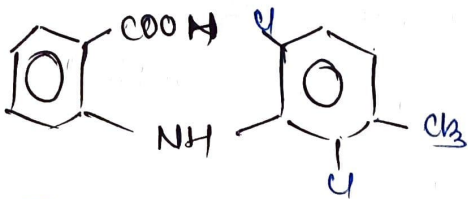
MOA - COX inhibitor

- Uses -
- ① Mild to moderate pain
 - ② Predominant Analgesic property than anti-inflammatory
 - ③ used in menstrual pain & associated migraines.
 - ④ Fever

④ Synthesis -



④ Meclofenamate

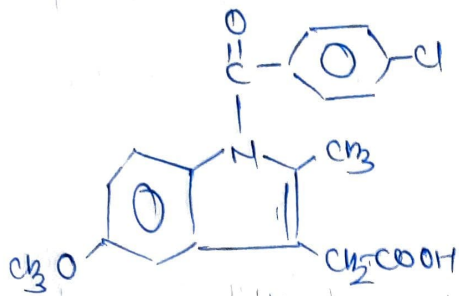


2 [(2,6-dichloro-3-methyl phenyl) amino] benzoic acid

MOA - COX inhibitor

- Uses -
- # choice of drug for joint pain, muscular pain arthritis, dysmenorrhoea
 - # In horses, used in Myofascial Syndrome (lameness problems)

5) Indomethacin

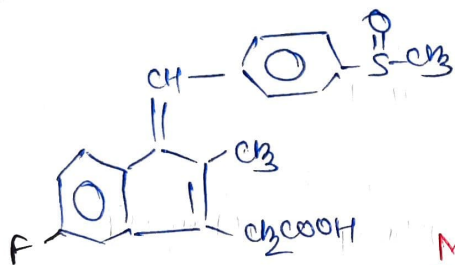


1-(4-chlorobenzoyl)-5-methoxy-2-methylindol-3-yl acetic acid

MOA - Potent COX inhibitor

Uses - # Acute Gout & Rheumatoid arthritis
Analgesic
also used to delay premature labour

6) Selindac

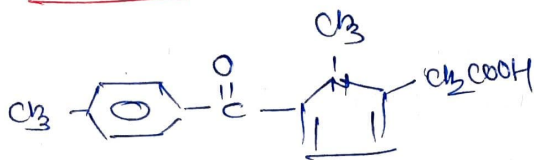


(Z) 5-Fluoro-2-methyl-1-[(4-(methylsulphonyl)benzylidene)indene-3-yl]acetic acid

MOA - COX Inhibitor

Uses - # Treatment of musculoskeletal & joint disorder
delay the premature labour (Tocolytic)
Also useful in Alzheimer's disease along with other NSAIDs

7) Tolmetin -

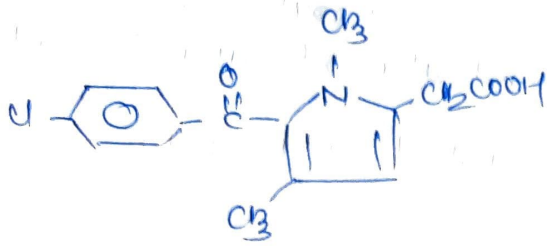


2-[1-methyl-5-(4-methylbenzoyl)-1H-pyrrolo[2,3-b]pyridin-2-yl]acetic acid

MOA - ↓ PGE level

Uses - # Analgesic, Antipyretic, Anti-inflammatory
used in Osteoarthritis, rheumatoid arthritis, including juvenile rheumatoid arthritis

⑧ Zomepirac



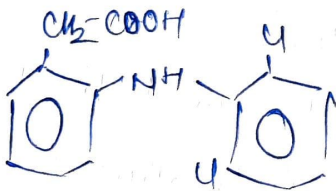
2 - [5-(4-chlorobenzoyl)-1,4-dimethyl pyrazol-2-yl]
Acetic acid

MOA - ↓ PGs & TXA₂ (Cox Inhibitor)

Uses - # Analgesic

musculoskeletal injury, arthritis, pain

⑨ Diclofenac



2-[(2,6-dichlorophenyl)amino]
- phenyl acetic acid

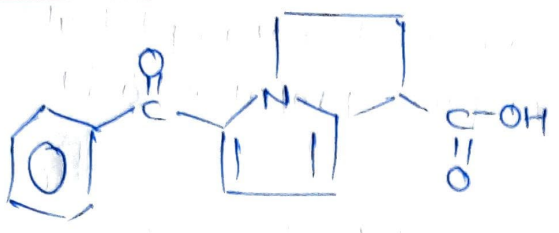
MOA - ↓ Cox

Use - # Analgesic, Antipyretic, Anti-inflammatory

Arthritis, Renal colic, gout & in surgical procedure.

0.1% solution eye drop - post operative inflammatory condition.

⑩ Ketorolac



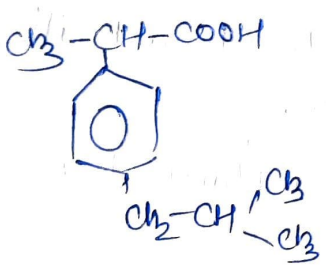
5-benzoyl-2,3-dihydro-1H-pyrolizine-1-carboxylic acid

MOA - ↓ COX

Use - # Analgesics

- # pain management in dysmenorrhea
- # Idiopathic ~~per~~ pericarditis
- # used during eye surgery to maintain mydriasis

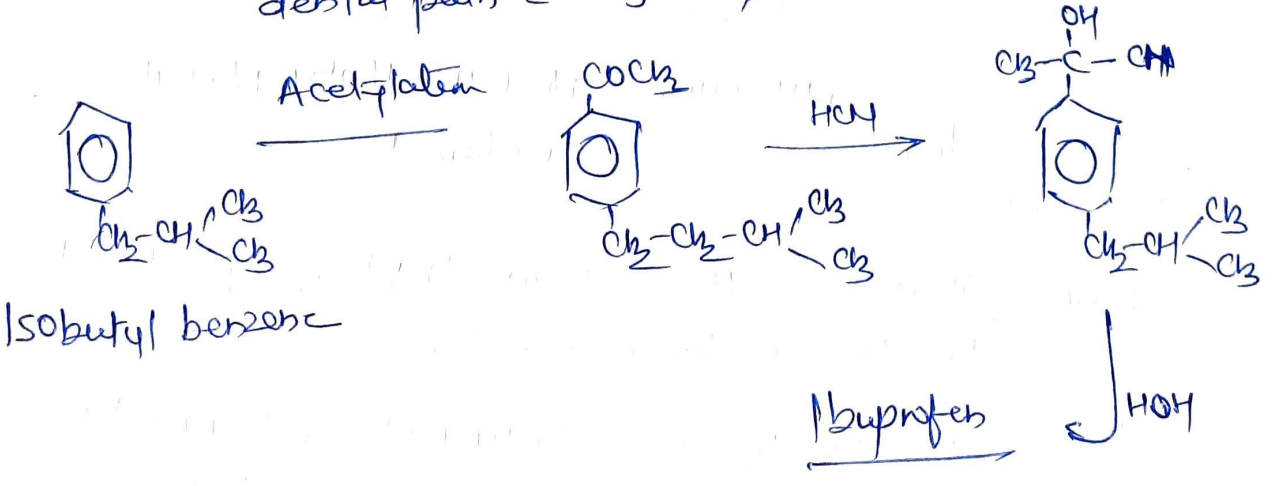
⑪ Ibuprofen



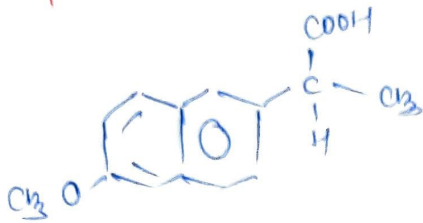
(RS) 2-(4-isobutyl-phenyl) propanoic acid

⇒ ↓ COX

- Uses - # Analgesic, Antipyretic, & anti-inflammatory
- # pain management after surgery, menstruation, dental pain & migraine, rheumatoid disease.



⑫ Naproxen

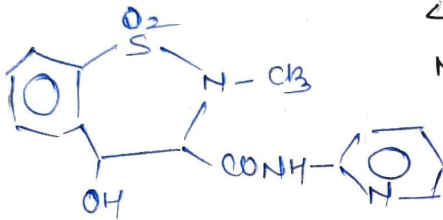


2-(6-methoxynaphthyl) propionic acid

MOA - Reversibly inhibiting both COX1 & COX2

Uses - # Analgesics for dysmenorrhoea & migraine
Anti-inflammatory & Antipyretic property

⑬ Piroxicam



4-hydroxy-2-methyl-N-(2-pyridinyl) 2H-1,2-benzothiazine-3-carboxamide-1,1-dioxide

MOA - ↓ COX

Uses - # pain management in rheumatoid, osteoarthritis, dysmenorrhoea, post-operative pain
topical also used for painful & inflammatory conditions
also having antipyretic property

⑭ Phenacetin



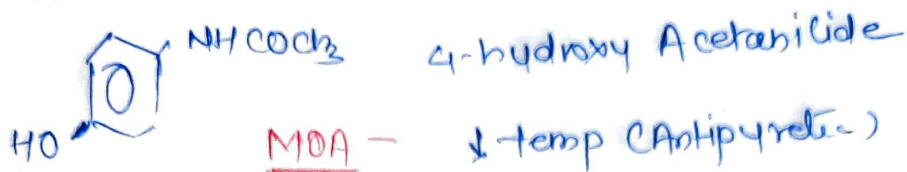
NH-COCH₃

N-(4-ethoxy phenyl)-acetamide

MOA - It acts on the sensory tracts of spinal cord to show analgesic effects.

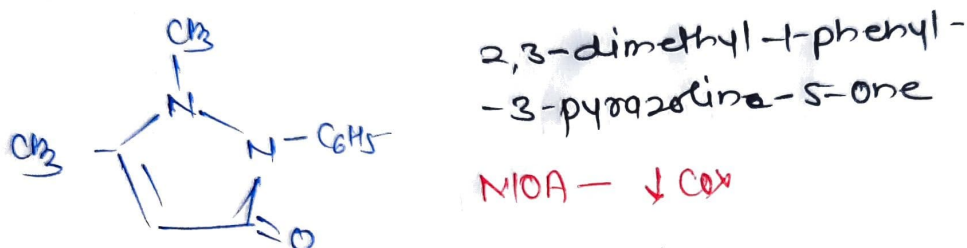
Use - # Analgesic & Antipyretic (banned in India due to carcinogenicity)
used for research in physical and refractive property of crystal

15) Paracetamol (Acetaminophen)



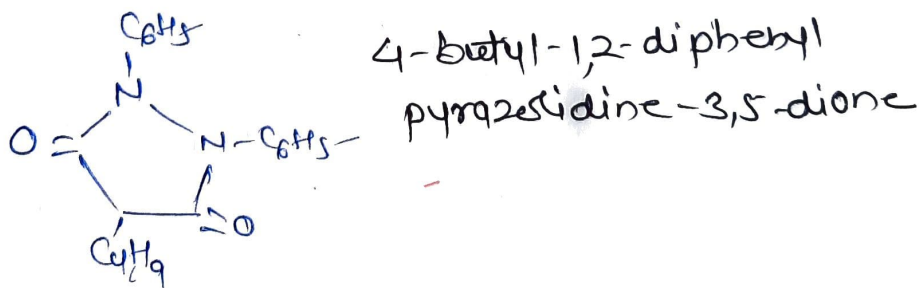
- Uses -
- # Analgesic & Antipyretic
 - # combination with opioid for severe pain

16) Antipyrine (Phenazone)



- Uses -
- # Analgesic & Antipyretic
 - # ear drops in disorder like acute otitis media
 - # also used in testing the effects of other drugs or disease on drug metabolizing enzymes in liver

17) Phenylbutazone



MOA - Inactivates prostaglandin H synthase & prostacyclin synthase enzyme by peroxide mediated deactivation.

- Use -
- # ~~Due~~ to toxicity, used only in acute rheumatoid disorder as anti-inflammatory
 - # 90 horses, as analgesic & antipyretic