

QUALITATIVE ANALYSIS OF RENAL CALCULUS

Wash with dist. water, dry, describe and grind the calculus to powder

Procedure

5 -10 mg powder +1ml **R1**, Warm to 60 °C for 5 min shake, centrifuge, decant

5 mg powder + 3 drops **R7**, **GAS BUBBLES, +ve CARBONATE**
 3 ml dist. H₂O, mix, boil, centrifuge, decant,
 3 drops supernate + 0.5 ml dist. H₂O +
 3 drops **R13** + 3 drops **R14**,. mix + 3 drops **R15** mix,
 Incubate 20 min at 37°C **BLUE COLOR, +ve AMMONIUM**

Residue

Supernate

Wash with dist. H₂O centrifuge. discard supernate then add.
 1 drop **R7** on the residue.
GAS BUBBLES, +ve CARBONATE

2 drops supernate
 1 drop **R2**
 1 drop **R3**
DEEP BLUE COLOR
+ ve URIC ACID
and/or URATES.

2 drops supernate
 1 drop **R4**
 1 drop **R5**
 Let stand 4 min.
 1 drop **R6** (freshly prepared)*
DEEP RED COLOR+ve CYCTINE

Add 0.5 ml dist. H₂O
 Boil, cool, centrifuge, decant.

Supernate

2 drops supernate
 5 drops dist. H₂O
 5 drop **R8**
 1 drop **R9** (diluted 50 times)**
BLUE COLOR + ve PHOSPHATE

0.3 ml Supernate + 4 drops **R10** Let stand for 10 mins.
PRECIPITATE, +ve CALCIUM OXALATE,, centrifuge, decant

Above Supernate + 2 drops **R11** + dist. H₂O double the volume,
 let stand 10 mins,
PRECIPITATE, +ve CALCIUM OTHER THAN OXALATE,
 centrifuge, decant

Above Supernate + 2 drops **R12** + 0.5 ml **R13**
RED COLOR AND PRECIPITATE,+ve MAGNESIUM

R Reagent

* Dissolve few crystals in 0.5 ml dist. H₂O each time

** Dilute **R9** fifty times before use (1 drop + 2.5 ml dist. H₂O)

N.B. For each cation detected – calcium, ammonium or magnesium – a corresponding anion should be found oxalate, phosphate or carbonate. If ammonium ion is found it should be accompanied by magnesium. If not the analysis should be checked. The most common combinations are: calcium phosphate, calcium oxalate, ammonium magnesium phosphate and uric acid.

REPORT CALCULUS ANALYSIS

- **TYPE OF CALCULUS:**

- **DISCRIBTION:**

SHAPE:

COLOR:

TEXTURE OF SURFACE

CONSISTENCY:

BRITTLENESS:

SIZE:

WEIGHT:

- **CHEMICAL EXAMINATION:**

- CARBONATE

- CALCIUM OXALATE:

- CALCIUM OTHER

THAN OXALATE:

- PHOSPHATE

- MAGNESIUM

- AMMONIUM ION

- URIC ACID

- URATES

- CYSTINE

CONCLUSION:

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