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C-200 SCHMORL'S METHOD FOR SECTIONS

Fixation: **Formalin, 10%** (F-111) Decalcify in

Embedded in: Celloidin

Staining:

1. Remove any trace of alcohol from sections by placing in distilled water for a minimum of 10 minutes.
2. Stain in either **Nicolle's Carbol Thionin** (C-200-1) or in **Thionin, 0.05%** (C-200-1A) for 5-10 minutes or longer. Wash in distilled water.
3. Place in **Picric Acid Solution** (C-200-2), for ½ -1 minute. Wash in distilled water.
4. Place in 70% alcohol until no more dense clouds of color are given off (approximately 5-10 minutes).
5. Dehydrate in 95% alcohol, clear in terpineol or in oil of origanum and mount in balsam.

Stain Results:

Bone substance	Yellow to yellowish brown
Bone lacunae and canaliculi	Dark brown to black
Cells	Red
Fat cells (after Muller's Fluid)	Reddish violet
Osseous tissue	Deeper yellow than osteoid tissue

Note: This method is not a true stain. A precipitation of coloring matter takes place in the lacunae and canaliculi. To a considerable extent, it also takes place in other marrow spaces in the tissues. The latter can be decreased to some extent by washing with water for 1/2 hour after treatment with saturated aqueous Picric Acid. (Step 3). The canaliculi are then usually brownish red to red and bone substance is blue to colorless. To bring out the nuclei, it is recommended that the sections be stained in alum hematoxylin first.

References:

Schmorl, G., Die Pathologisch-Histologisch Untersuchungs Methoden, 7th ed., F.C.W. Vogel, Leopzig, 1914, p. 136.

Mallory, F.B., Pathological Technique, W.B. Saunders Company, Philadelphia, 1938, p 172-3.

Clark, G. (ed.), Staining Procedures, 3rd edition, Williams & Wilkins Co., Baltimore, c. 1973, p. 135.