

OrthoChromic Film Dosimetry

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OCI proprietary technology



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AAPM, July 2019

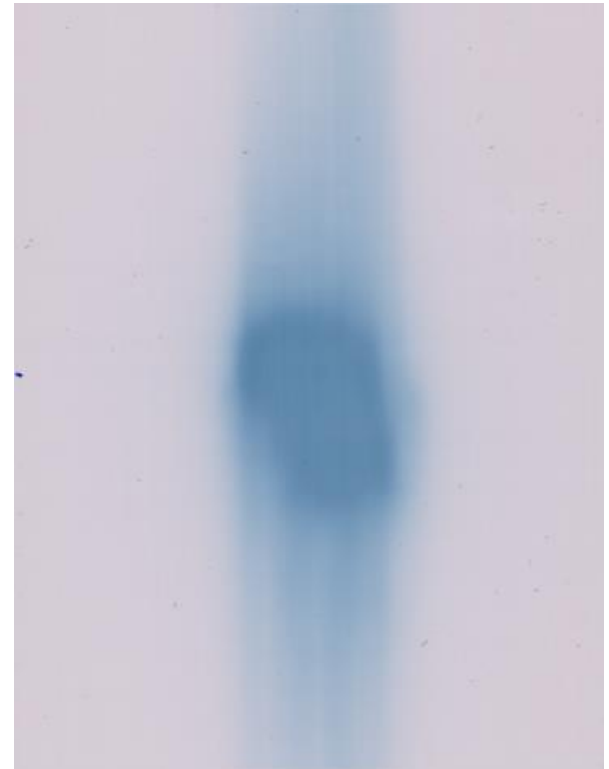
www.OrthoChromic.com

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OrthoChromic Film OC-1

Base Properties

- Super wide dynamic dose range
 - Accurate dose measurement 10 cGy - 100 Gy
 - Suppressed lateral scanner effect
 - Use of full color range of scanner
- Highly stable and versatile
 - Heat stability up to 120°C
 - Water proof, safe use in water tank
- Desired energy dose response
 - Tissue equivalent
 - Energy independent
 - Dose rate and fractionation independent



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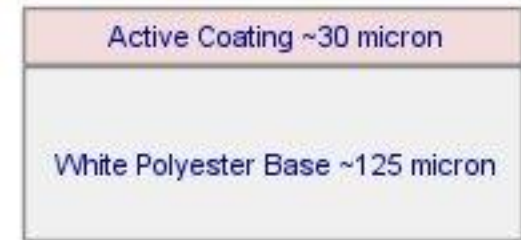
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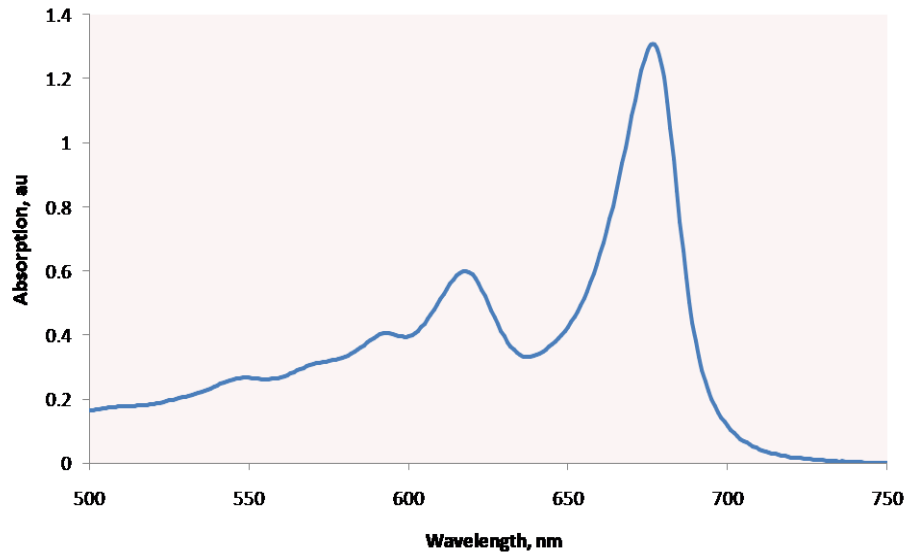
Structure

➔ Opaque, flexible film

- Reflective mode scanning
- Scan involves only 2 surfaces
- Enables use in phantoms of all shapes and curvatures



➔ OC-1 Absorption Spectrum



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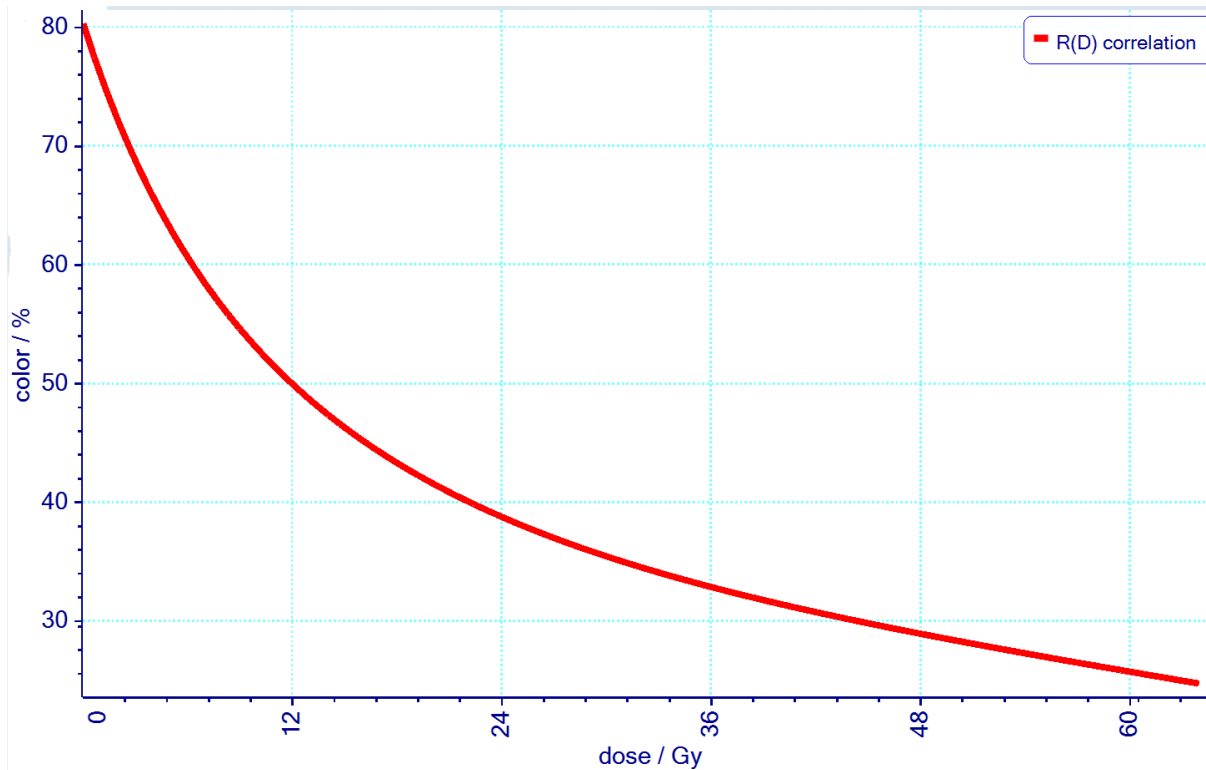
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OrthoChromic Film OC-1

Color Density Response



OC-1 super wide dynamic dose range 10cGy – 100 Gy



OrthoChromic Protocol

Basics

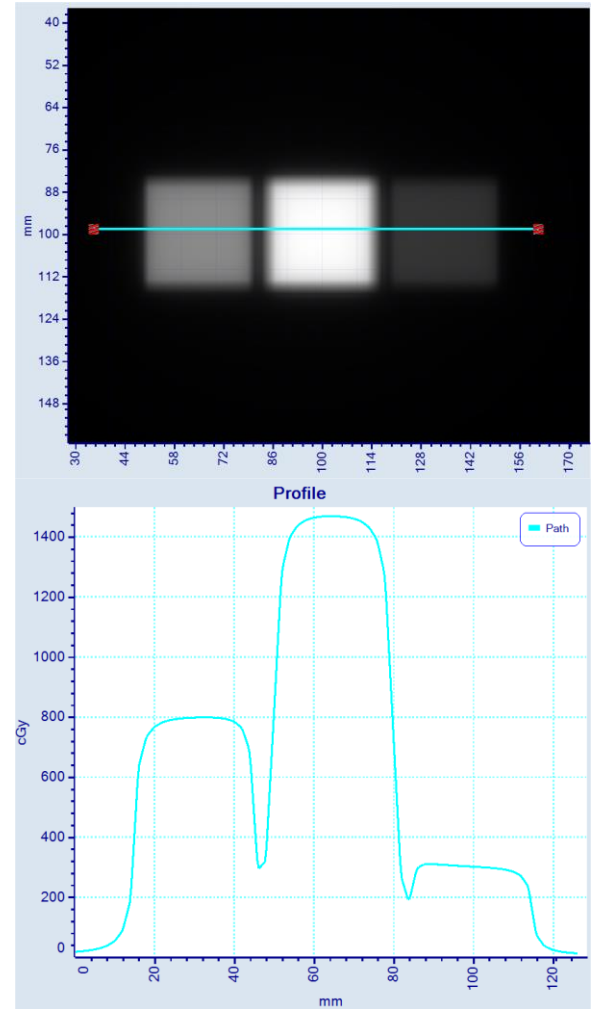
- ➔ Requires merely 2 film pieces
- ➔ Entire analysis involves 1 scan only
- ➔ Single Exposure Calibration
- ➔ Calibration and dose map determined in same step



OrthoChromic Protocol

Single Exposure Calibration

- ➔ Calibration based on 100000's of pixel/dose pairs (vs. 3 - 10 value pairs traditionally)
- ➔ Continuous dose distribution for even dose accuracy
- ➔ All calibration data on same piece of film
- ➔ No secondary calibration data required



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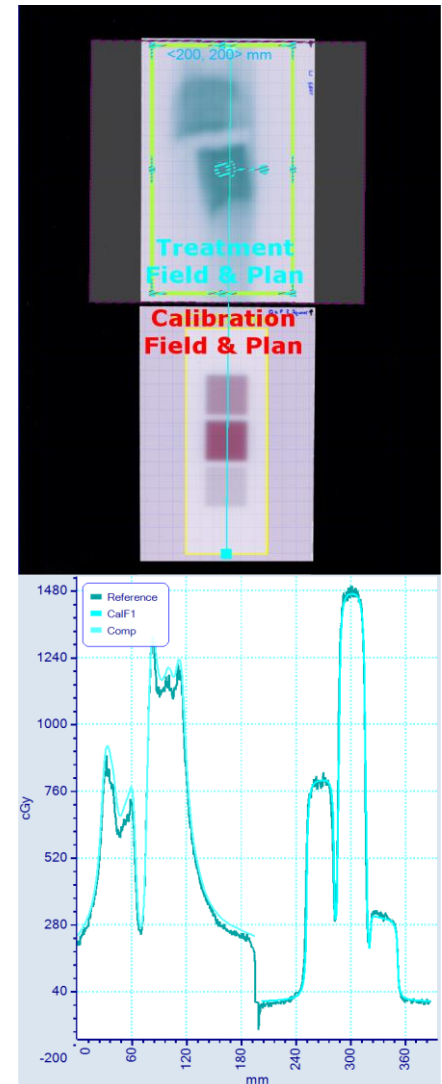
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OrthoChromic Protocol

Reliable, easy Protocol

Automated analysis in three simple steps:

1. Scan films with treatment and calibration fields
2. Assign calibration plan to calibration field area (auto registration)
3. Assign treatment plan to treatment field area (auto registration)



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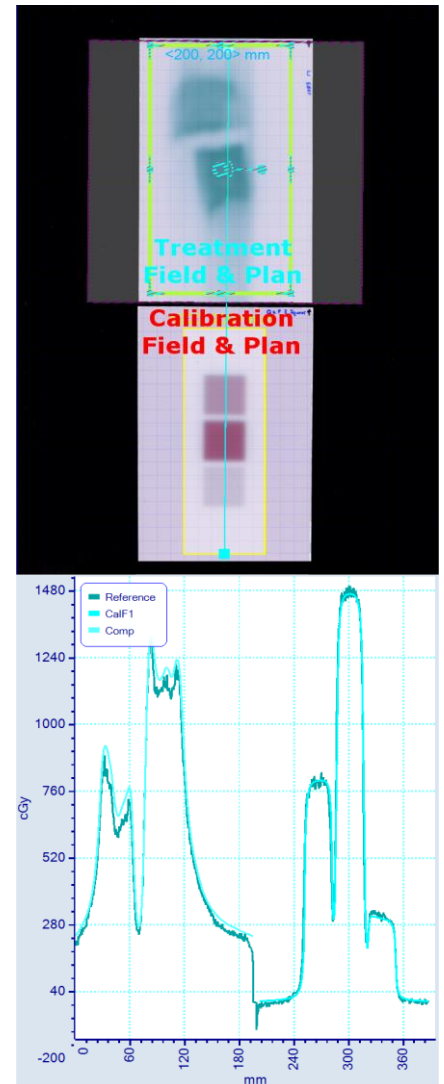
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OrthoChrome Pro Software

Reliable, easy Protocol

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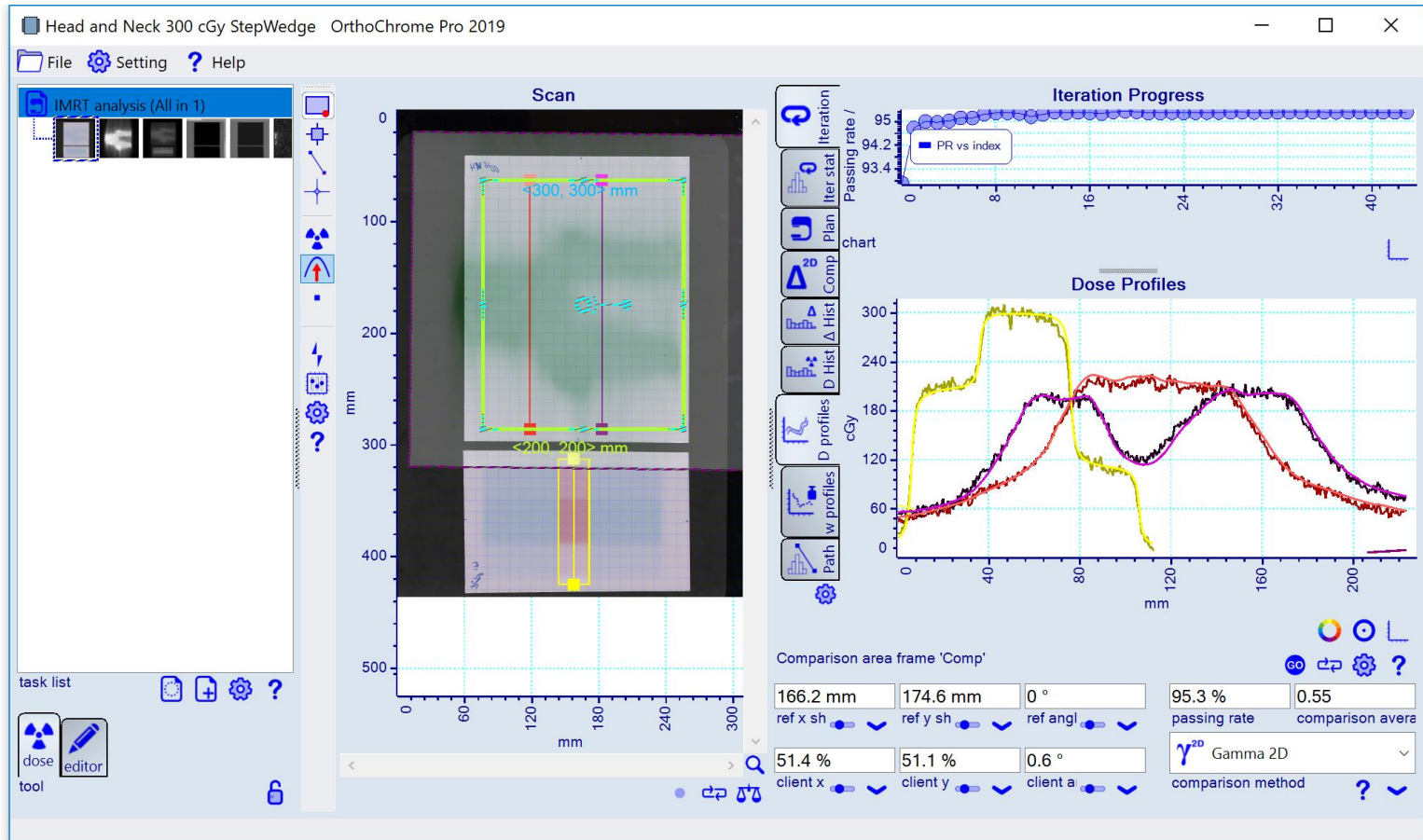
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To verify, download OC Pro at www.OrthoChromic.com



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