

A new generation of film based dosimetry comprised of superior film and software analysis

Novel OrthoChromic Film OC-1 and analysis software OrthoChrome Pro have been built from ground up to provide the best dosimetry tool for modern medical physicists.

OrthoChromic Film OC-1

- Super wide dynamic dose range to support all the possible applications in radiation therapy.
 - Accurate dose measurement from 10 cGy - 100 Gy
 - Use of full color span of scanner
 - Suppressed lateral scan effect
- 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

Basic Properties of OrthoChromic Film OC-1

OrthoChrome film was designed to be the most robust and user friendly dosimetry tool. The special coating layer is water proof and can be safely immersed into water (structure shown in Figure 1).

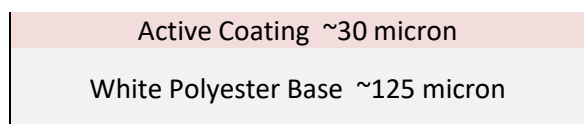


Figure 1: Structure of OrthoChromic Film OC-1

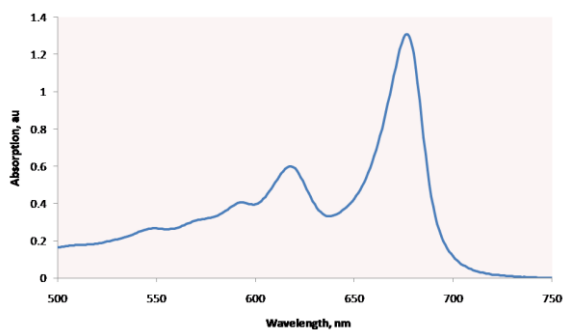


Figure 2: Absorption Spectrum of the OrthoChrome Film

The reflective nature of the film is designed to eliminate most of the interfaces that can create artifacts during scanning process with commonly used

flatbed scanner. The flexible nature of the film also enables the use of the film in phantoms of all shapes and curvatures.

The newly developed active component has an absorption peak at 670 nm as shown in Figure 2. The active also exhibits very little commonly seen scanner lateral variation and hence enables more accurate dose measurement for large area.

OrthoChromic film OC-1 was designed to have extremely wide usable dynamic range. As shown in Figure 3, the usable dose range extends from 10 cGy to 100 Gy, covering every possible use in radiation therapy.

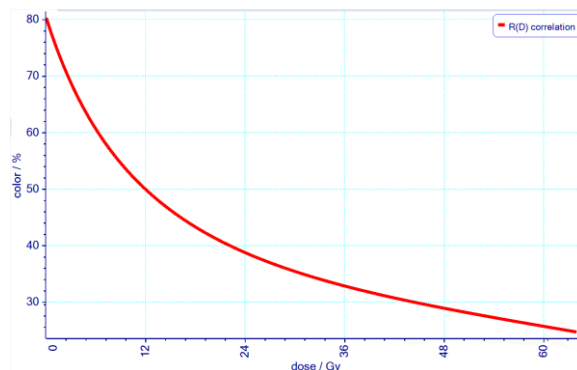


Figure 3: Color Density Response Curve of OC-1 Film

OrthoChrome Pro Software

- Reliable and accurate verification of any IMRT plans based on latest technology development.
 - Single exposure dose field calibration
 - Entire analysis requires solely 2 pieces of OC-1 film
 - New approach involves merely 1 scanned image
 - Calibration and dose map calculation in one simple step
- Automated all on one screen analysis for quick and stable data evaluation
 - Entire analysis in 3 easy steps
- 3D data handling

Basic Properties of OrthoChrome Pro

OrthoChrome Pro provides a new, reliable and easy to use film dosimetry protocol, the automated analysis requires 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).

Entire data evaluation is using an automated all on one screen analysis as shown in Figure 4. The multi-threaded 64-bit architecture of OrthoChrome Pro possess enough resources to handle even high resolution analysis with ease.

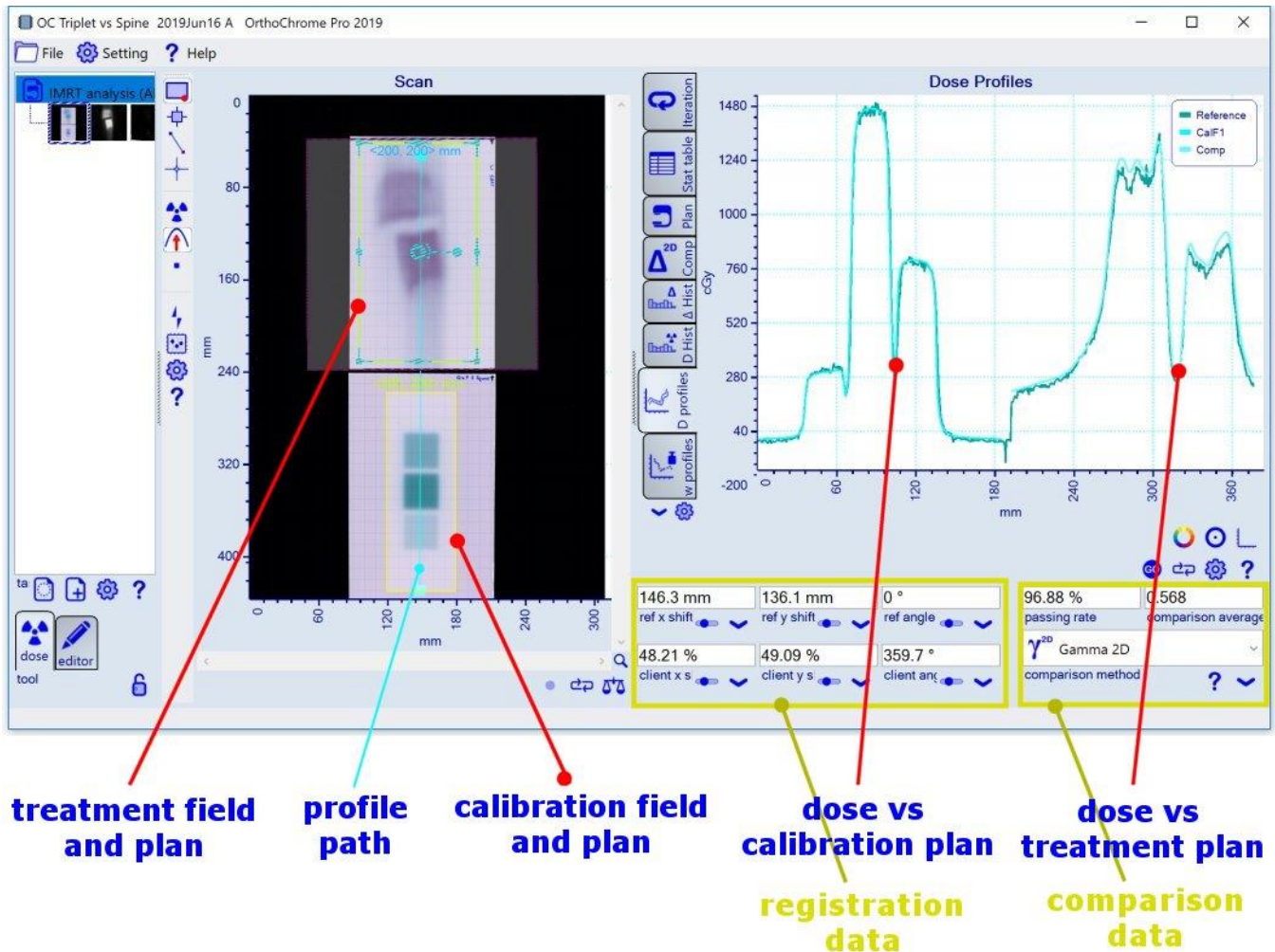


Figure 4: OrthoChrome Pro allows automated Calibration, Dose map generation and Treatment plan comparison all in one panel.

Advantages of OrthoChrome Dosimetry System

OrthoChrome Dosimetry System offers the best tools for today's radiation therapy environments: Same robust and uniform film for all applications, a reliable and simple work flow of software and most importantly our superior products are accompanied by superior service!