

Technical Note

Anthraquinone chemistry



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Immobilization of Immobilizer™ reagents

Preface:

This Technical Note describes how to couple Exiqon's proprietary Immobilizer™ reagents to polymer surfaces. The intention is to provide the user with a starting point for immobilization of any AQ Immobilizer™ reagent to any surface using in-house equipment.

See also TechNote AQ04: Immobilization of Immobilizer™ reagent on native polymer slides.

Immobilization of AQ-Immobilizer reagents:

For production of Immobilizer microtiter products and Immobilizer slides we immobilize the AQ-Immobilizer™ reagents dissolved in water or buffers e.g. NaCl or LiCl solutions. The concentration of the AQ-Immobilizer™ reagents are ranging from 100 ug/L to >1600 ug/L. We use custom made equipment for UV irradiation when immobilizing AQ-Immobilizer™ reagents onto microtiter-plates. The specs for this equipment is shown below. A typical irradiation time is between 5 to 15 minutes at rt..

One can also immobilize using a stratalinker. However, be aware the stratalinker uses 254 nm (we use 350 nm – see data below). Thus, 1-5 minutes might be enough for immobilization. One should do both time-course and concentration dependency when carrying out immobilization and also investigate water as well as different buffers as solvents.

Unfortunately we have not measured the total light effect when immobilizing AQ-Immobilizer™ reagents. A UV-meter can be purchased at www.hagner.se (EC1-UV-A).

AQ has A(max) at 325 nm.

Important information:

- Remember to keep AQ-Immobilizer™ reagents in the dark when not used.
- UV-activated AQ-Immobilizer™ reagents will bind to all surfaces containing –CH_x- groups. Thus, metals, glass and ceramics must be primed to contain organic groups e.g. by silanization or plasma treatment before they can be used as substrates for AQ-immobilization.

Light source	Philips compact tubes 25W-S (06120 1L 25W0 9S)
Total light effect	700 w
UV-A radiation	120 w
UV-B radiation in % of total UV radiation	2,3 %
Total emission area	290-410 nm
Peak	350 nm
Sample illumination	Top/bottom or both
Sampleholder	Glassplate
Distance from glassplate to top tubes	70 mm
Distance from glassplate to bottomtubes	25 mm

Trademarks and patents

The anthraquinone technology is covered by U.S. Patent no. 6,033,784, EP 0820483 (Nationally filed in Albania, Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Monaco, Netherlands, Portugal, Slovenia, Spain, Sweden, Switzerland and United Kingdom), JP 3124037 and AU 699321 owned by Exiqon A/S.

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