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(54) **COMPOSITION, METHOD, SYSTEM AND KIT FOR OPTICAL ELECTROPHYSIOLOGY**

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(58) **Field of Classification Search**

None

See application file for complete search history.

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(57) **ABSTRACT**

The present invention provides a method of optical electrophysiological probing, including: providing a fluorescing chemical probe; contacting a thick portion of tissue with the fluorescing chemical probe to create a thick portion of treated tissue; applying a first range of wavelengths of electromagnetic radiation to the treated portion of tissue; and detecting a plurality of depth-specific emission wavelengths emitted from the thick portion of treated tissue.

4 Claims, 22 Drawing Sheets