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(71) Applicant (for all designated States except US):

SENSORS FOR MEDICINE & SCIENCE, INC.
[US/US]; 20451 Seneca Meadows Parkway, Germantown,
MD 20876 (US).

(72) Inventors; and

(75) **Inventors/Applicants** (*for US only*): **COLVIN, Arthur E., Jr.** [US/US]; 4155 Baltimore National Pike, Mt. Airy, MD 21771 (US). **JIANG, Hui** [CN/US]; 13201 Webster Hill Way, Clarksburg, MD 20871 (US).

(74) **Agent: KARTA, Glenn E.**; Rothwell, Figg, Ernst & Manbeck, P.C., 607 14th Street, N.W., Suite 800, Washington, DC 20005 (US).

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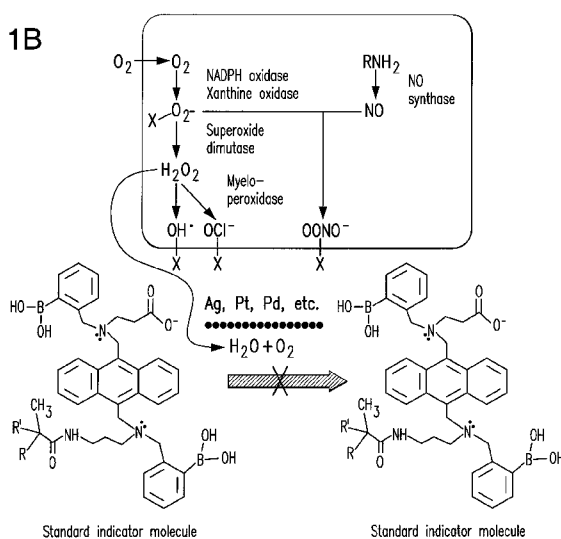
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(54) Title: INTEGRATED CATALYTIC PROTECTION OF OXIDATION SENSITIVE MATERIALS

FIG. 1B



(S7) Abstract: An implantable device with in vivo functionality, where the functionality of the device is negatively affected by ROS typically associated with inflammation reaction as well as chronic foreign body response as a result of tissue injury, is at least partially surrounded by a protective material, structure, and/or a coating that prevents damage to the device from any inflammation reactions. The protective material, structure, and/or coating is a biocompatible metal, preferably silver, platinum, palladium, gold, manganese, or alloys or oxides thereof that decomposes reactive oxygen species (ROS), such as hydrogen peroxide, and prevents ROS from oxidizing molecules on the surface of or within the device. The protective material, structure, and/or coating thereby prevents ROS from degrading the in vivo functionality of the implantable device.