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(71) Applicant *(for all designated States except US)*: **EPIX MEDICAL, INC.** [US/US]; 71 Rogers Street, Cambridge, MA 02142-1118 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **LAUFFER, Randall, B.** [US/US]; 33 Heath Hill Avenue, Brookline, MA 02146 (US). **MCMURRY, Thomas, J.** [US/US]; 4 Bonad Road, Winchester, MA 01890 (US). **DUMAS, Stephane** [FR/US]; 321 Harvard Street #102, Cambridge, MA 02139 (US). **KOLODZIEJ, Andrew** [US/US]; 390 S. Border Road, Winchester, MA 01890 (US). **AMEDIO, John** [US/US]; 30 Charles Drive, Franklin, MA 02038 (US). **CARAVAN, Peter** [CA/US]; Apartment 1, 357 Columbia Street, Cambridge, MA 02141 (US). **ZHANG, Zhaoda** [US/US]; 4 Inwood Lane, Andover, MA 01810 (US). **NAIR, Shrikumar** [IN/US]; 1 Candlewick Close, Lexington, MA 02421 (US).

(74) Agents: **HALEY, James, F., Jr.**; Fish & Neave, 1251 Avenue of the Americas, New York, NY 10020 et al. (US).

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(54) Title: TARGETING MULTIMERIC IMAGING AGENTS THROUGH MULTILOCUS BINDING

(57) Abstract: The present invention relates to contrast agents for diagnostic imaging. In particular, this invention relates to novel multimeric compounds which exhibit improved relaxivity properties upon binding to endogenous proteins or other physiologically relevant sites. The compounds consist of: a) two or more Image Enhancing Moieties (IEMs) (or signal-generating moiety) comprising multiple subunits; b) two or more Target Binding Moieties (TBMs), providing for in vivo localization and multimer rigidification; c) a scaffold framework for attachment of the above moieties; and d) optional linkers for attachment of the IEMs to scaffold. This invention also relates to pharmaceutical compositions comprising these compounds and to methods of using the compounds and compositions for contrast enhancement of diagnostic imaging.