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(71) Applicant: AGENCY FOR SCIENCE, TECHNOLOGY
AND RESEARCH [SG/SG]; 1 Fusionopolis Way, #20-10
Connexis, Singapore 138632 (SG).

(72) Inventor: GAGNON, Peter Stanley; 20 Biopolis Way,
Centros #06-01, Singapore 138668 (SG).

(74) Agent: SPRUSON & FERGUSON (ASIA) PTE LTD;
P.O. Box 1531, Robinson Road Post Office, Singapore
903031 (SG).

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(54) Title: METHODS FOR REDUCING AGGREGATE LEVELS IN PROTEIN PREPARATIONS BY TREATMENT WITH
THIO-HETEROCYCLIC CATIONS

(57) Abstract: A method of reducing the aggregate content in a protein preparation having a target protein includes contacting the
protein preparation with a thio-heterocyclic cation to form a mixture, contacting the mixture with at least one functionalized solid to
remove excess thio-heterocyclic cations; and optionally contacting the mixture, simultaneously or sequentially, with at least one fur-
ther functionalized solid to further reduce aggregate content of the protein preparation.



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