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(54) Title: CONJUGATES FOR SELECTIVE RESPONSIVENESS TO VICINAL DIOLS

(57) Abstract: Embodiments of the present disclosure relate to sensors that can selectively bind to specific vicinal diols in the presence of other diols. These boronated vicinal diol-responsive sensor compounds can sense levels of specific vicinal diols and respond to these molecules in the body. In certain embodiments, the vicinal diol is a cis diol, for example, a hexose such as glucose. In certain embodiments the sensors are conjugated to a drug substance, and the sensors may change the biophysical characteristics, pharmacokinetics, and/or activity of the drug substance in response to the vicinal diol. The drug substance may be or include a polypeptide, such as an insulin, a human endocrine or incretin peptide, or an analogue thereof, and may contain one or more modified amino acids containing a vicinal diol-responsive sensor.