**Supplementary Fig. 1.** Chemical structures of ethacrynic acid analogs and their anti-sickling activity (HbS ratio ranging from 0.961-1.224).
Supplementary Fig. 2. Chemical structures of benzylxyacetic acid analogs and their anti-sickling activity (HbS ratio ranging from 0.983-1.077).
**Phenoxyacetic acid**

Supplementary Fig. 3. Chemical structures of phenoxyacetic acid analogs and their anti-sickling activity (HbS ratio ranging from 0.996 to 1.087).
Supplementary Fig. 4. Chemical structures of aromatic amide analogs and their anti-sickling activity (HbS ratio ranging from 0.954 to 1.094).
Supplementary Fig. 5. Chemical structures of proline analogs and their anti-sickling activity (HbS ratio ranging from 0.967 to 1.028).
Supplementary Fig. 6. Chemical structures of 2,2-dimethylchroman analogs and their anti-sickling activity (HbS ratio ranging from 1.010 to 1.052).