

FIG. 1A

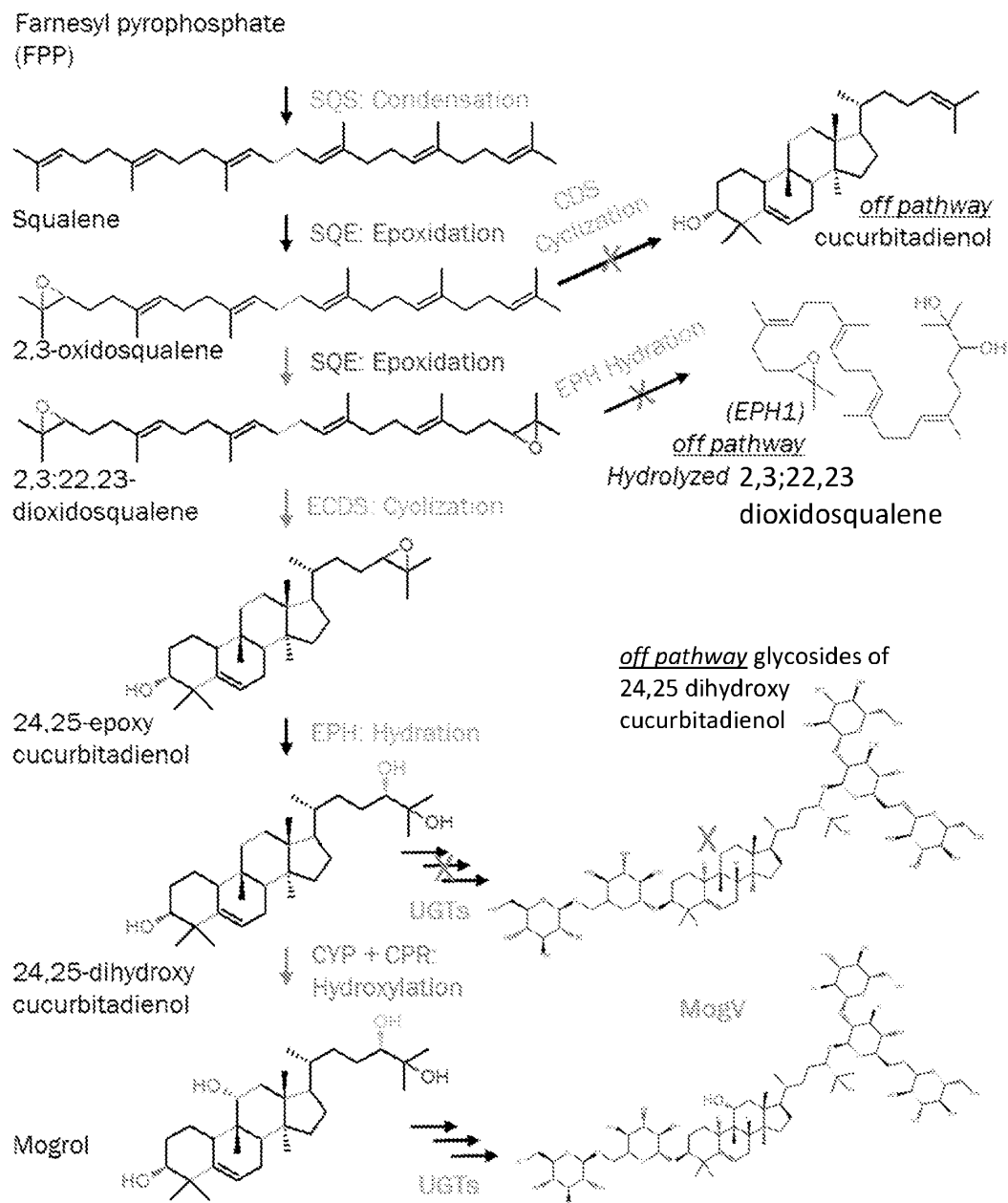


FIG. 1B

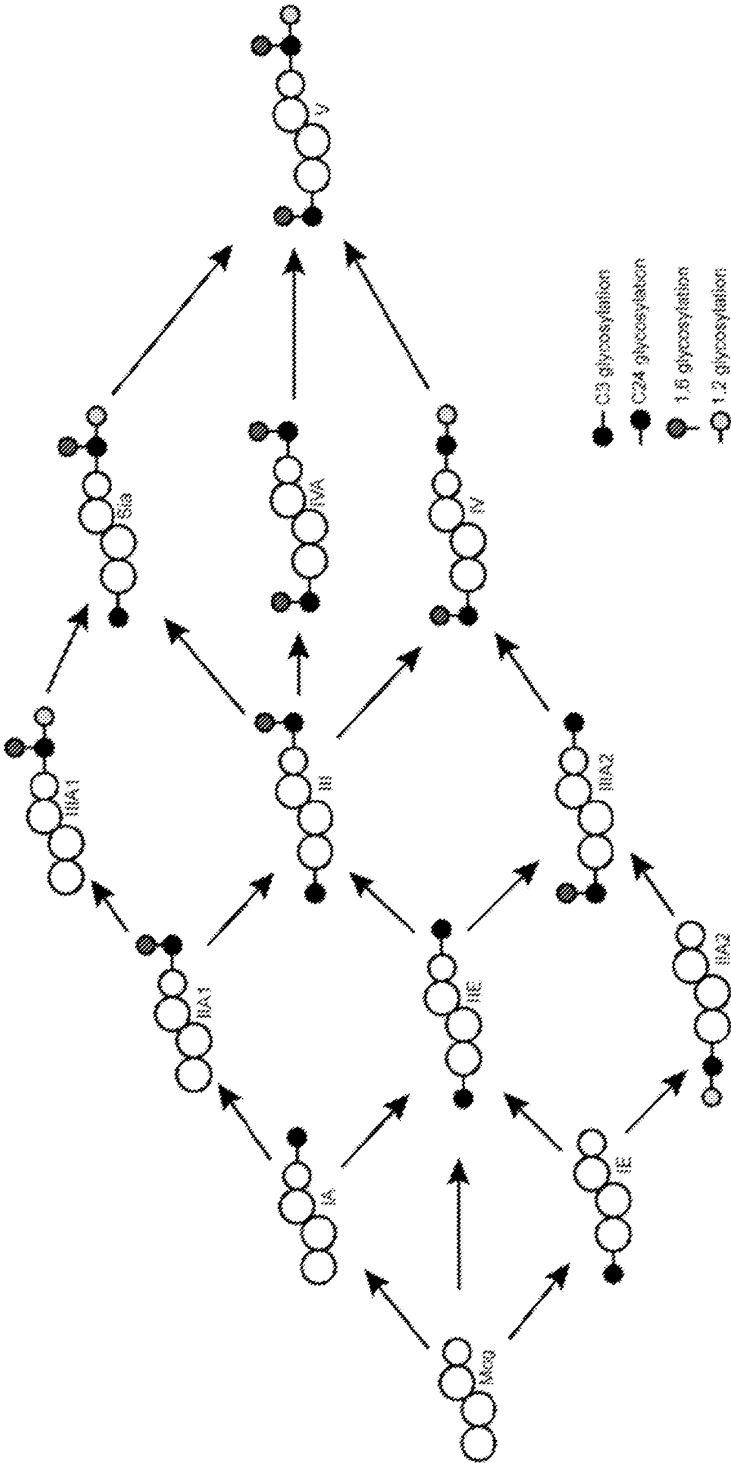


FIG. 2A

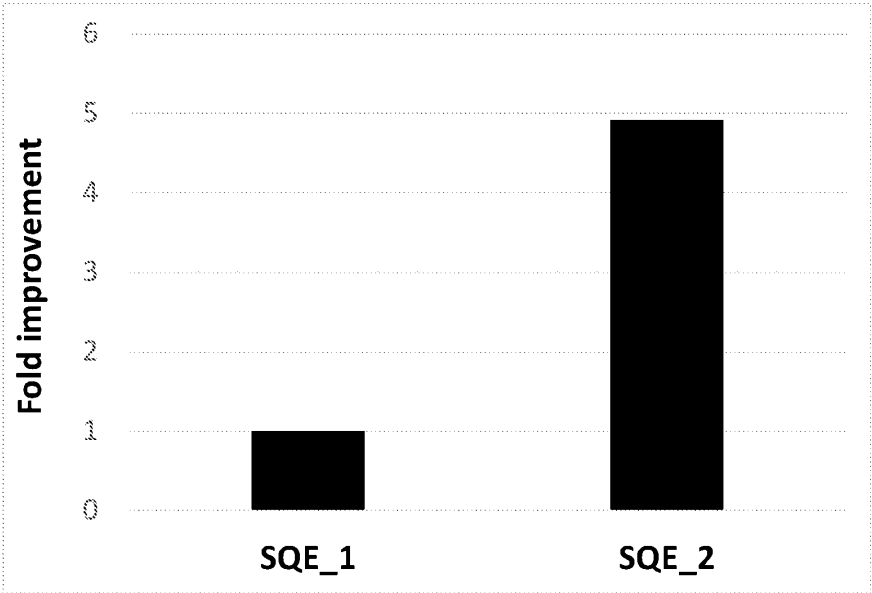


FIG. 2B

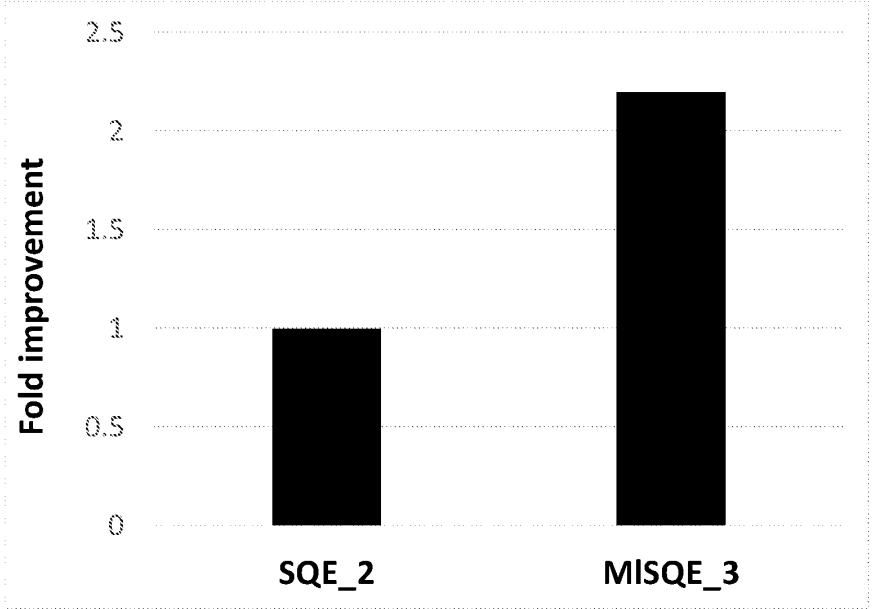


FIG. 2C

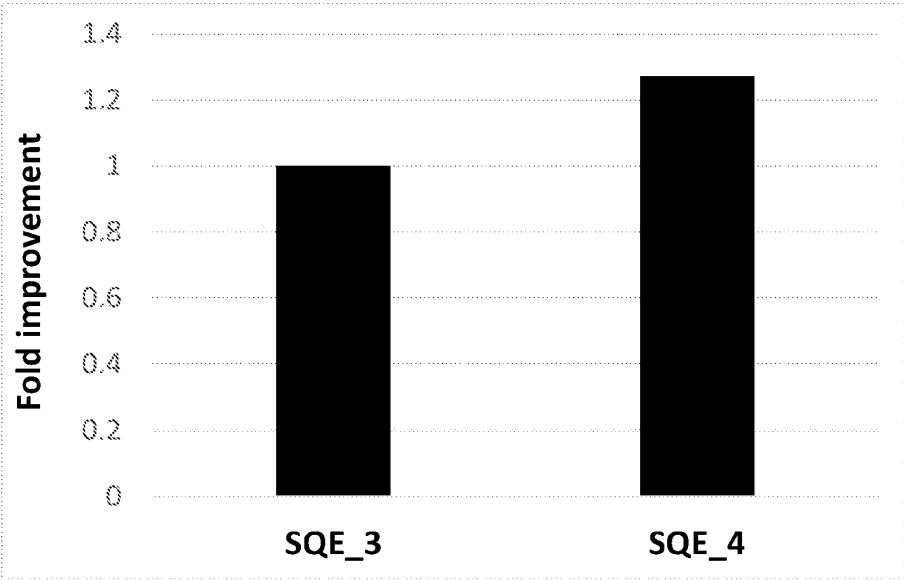


FIG. 2D

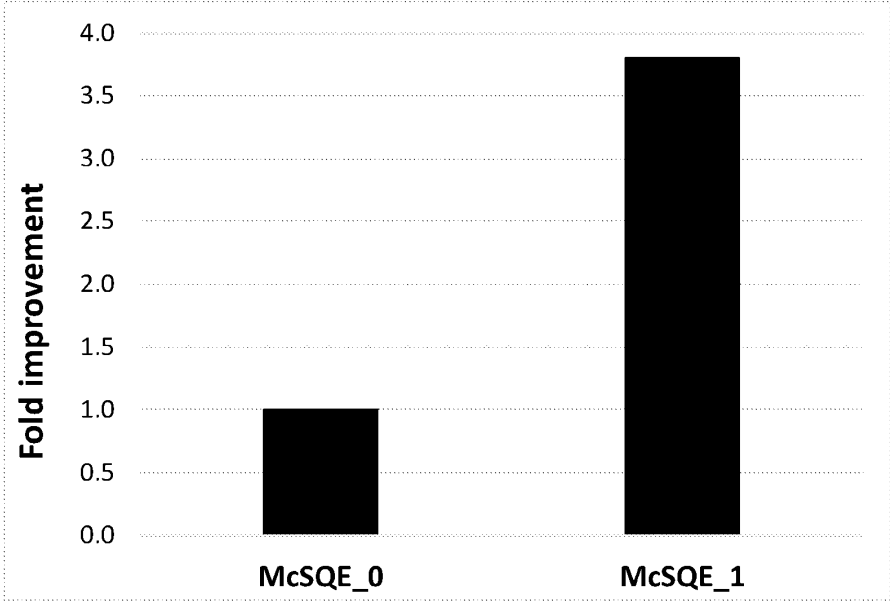


FIG. 2E

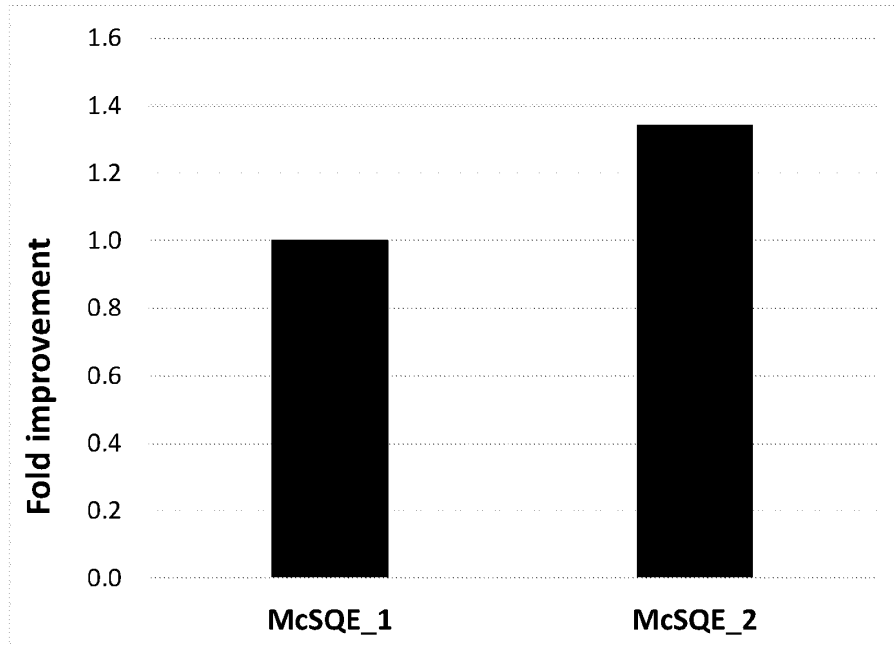


FIG. 3

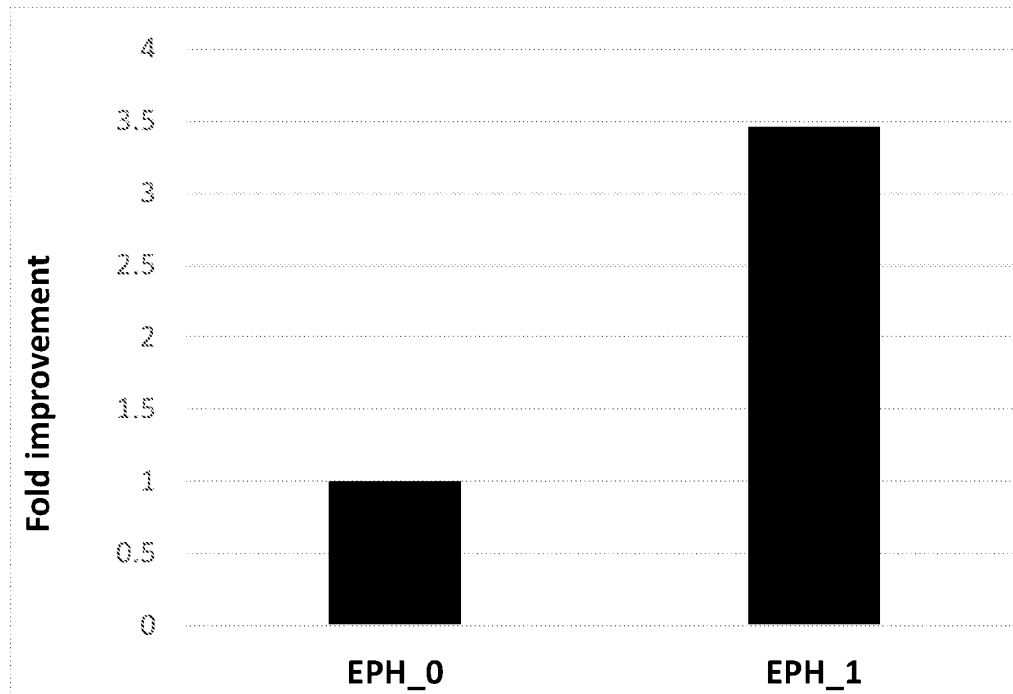


FIG. 4A

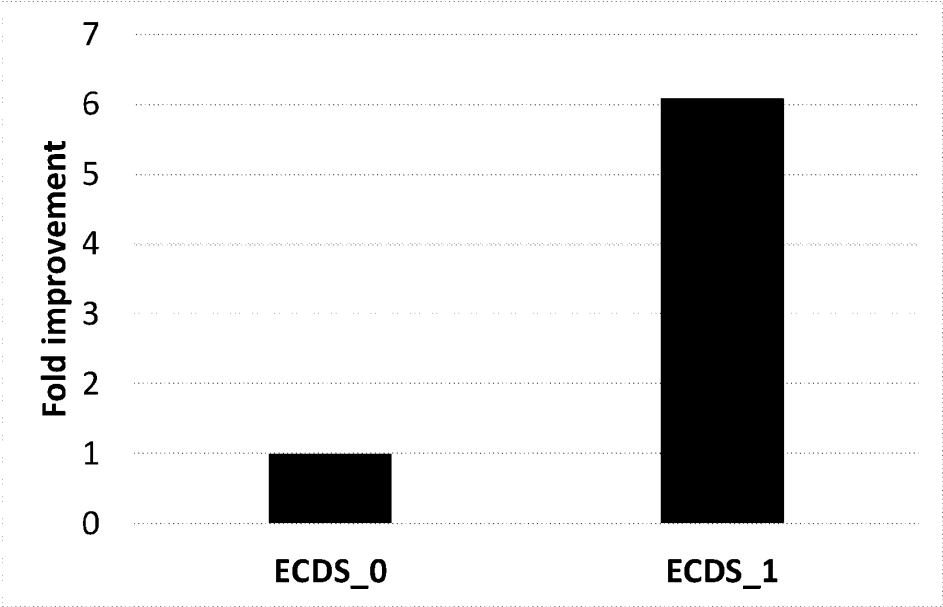


FIG. 4B

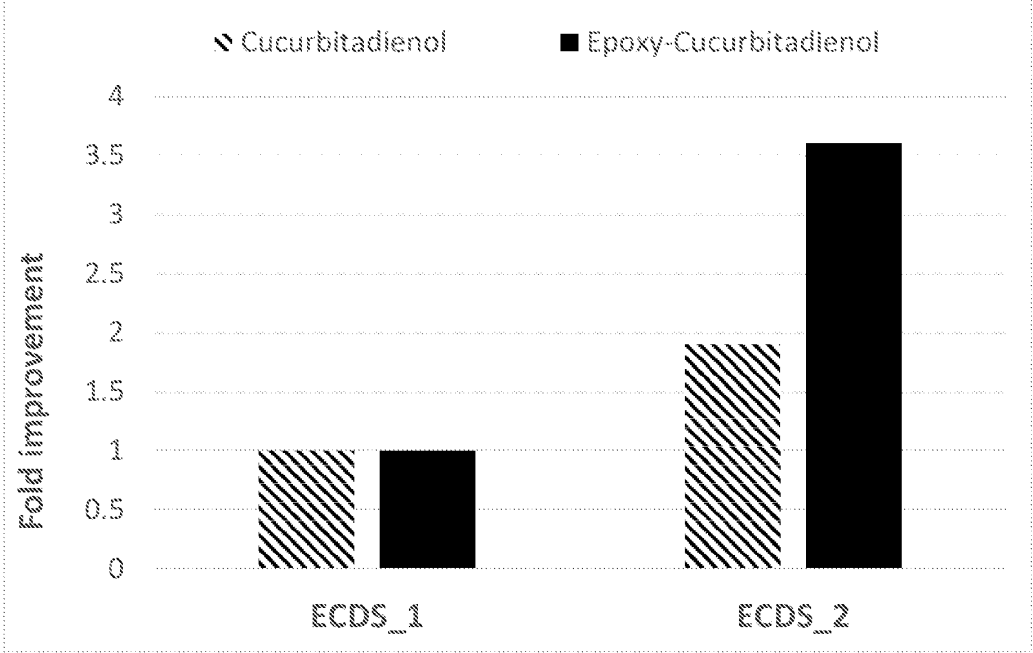


FIG. 4C

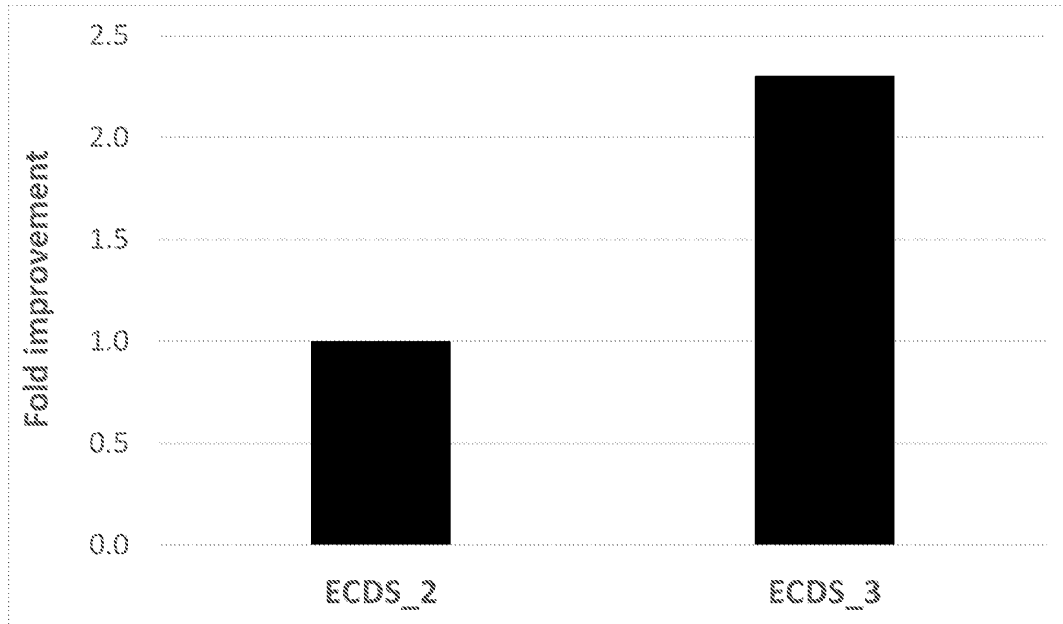


FIG. 4D

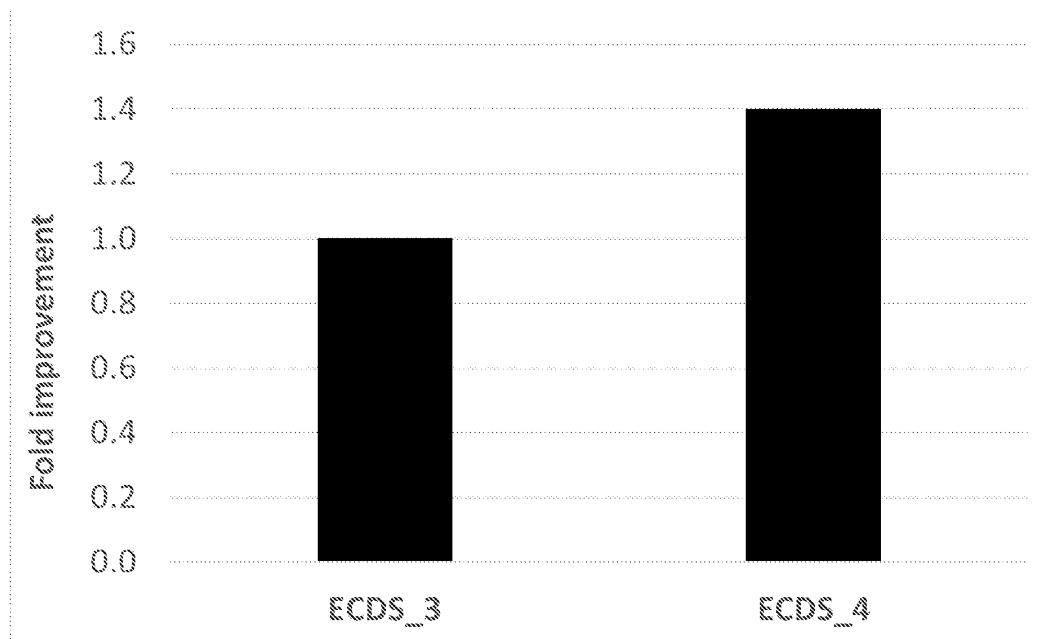
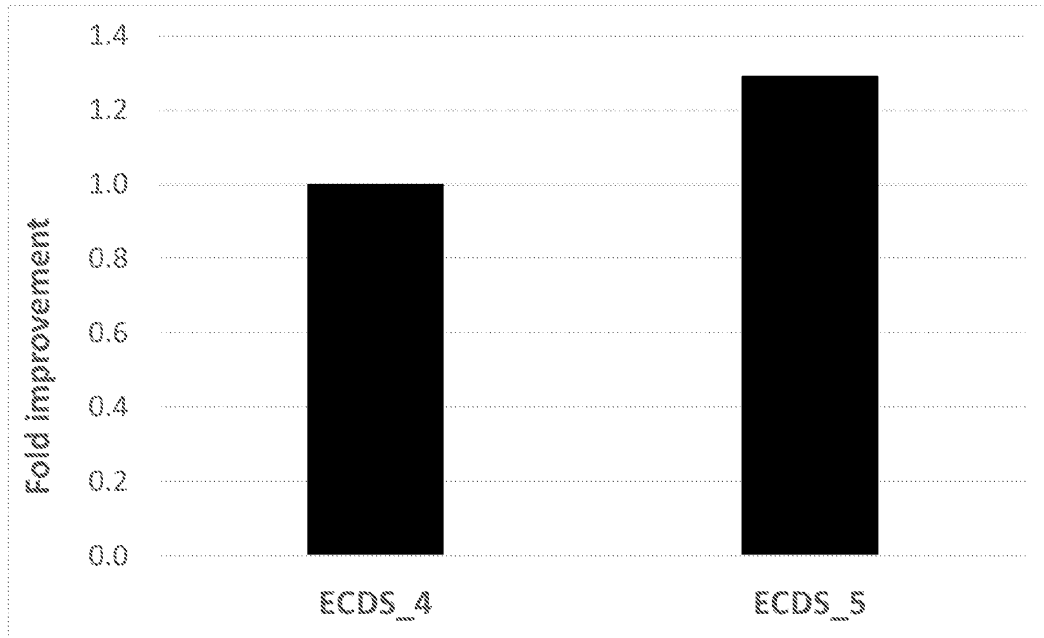


FIG. 4E



[illegible]

FIG. 5 (Continued)

ECDS (CcCDS)	AWPFSTRDHGWLISDCTAEGLKASLMLSCLPSEIVGEFLEKSRLCDAVNVLLSLQNGGG
SgCDS	AWPFSTRDHGWLISDCTAEGLKAAALMLSCLPSETVGESLERNLCDAVNVLLSLQNDNGG
CpCAS_mut	AWPFSTADHGWPISDCTAEGLKAVLLLSCLPSEIVGKSIDEQQLYNAVNVILSLQNTDGG
PsCAS_mut	AWPFSTADHGWPISDCTAEGLKAVLLLSKIAPEIVGEPLDSKRLYDAVNVILSLQNGGG
AaCAS_mut	AWPFSTADHGWPISDCTAEGLKAAALLSCLPSEIVDEPLDAKRFYDAVNVILSLMNADGS
	***** ***(I499V)***** ***(I499V)
ECDS (CcCDS)	FASYELTRSYPWLELINPAETFGDIVIDYPYVECTSATMEALTFLFKLHPGHRRTKEIDIA
SgCDS	FASYELTRSYPWLELINPAETFGDIVIDYPYVECTSATMEALTFLFKLHPGHRRTKEIDTA
CpCAS_mut	FATYELTRSYRWLELMNPAETFGDIVIDYPYVECSAAIQALAAFKKLYPGHRRDEIDNC
PsCAS_mut	LATYELTRSYTWLEIINPAETFGDIVIDCPYVECTSAAIQALATFGKLYPGHRRDEIQQC
AaCAS_mut	FATYELTRSYSWLELINPAETFGDIVIDYPYVECTSAAIQALVAFKRLYPGHRREDEVQGC
	:*:***** ***(I553M) (A553S):***** ***(I553M) (A553S)
ECDS (CcCDS)	VARAANFLENMQRTDGSWYGCWGVCFITYAGWFGIKGLVAAGRTYNSCVAIRKACDFLLSK
SgCDS	IVRAANFLENMQRTDGSWYGCWGVCFITYAGWFGIKGLVAAGRTYNNCLAIRKACDFLLSK
CpCAS_mut	IAEAADFIESIQATDGSWYGSWGVCFITYGGWFGIRGLVAAGRRYNNCSSLRKACDFLLSK
PsCAS_mut	IEKAVAFIEKIQASDGSWYGSWGVCFITYGTWFGIKGLIAAGKNFSNCLSIRKACDFLLSK
AaCAS_mut	IDKAAAFLEKIQEADGSWYGSWAVCFITYGTWFGVKGLVAAGKNYSNCSSIRKACNFLLSK
	: * . *:*.:* *****.*****. ***(I553M) (A553S):*.***** ***(I553M) (A553S)
ECDS (CcCDS)	ELPGGGWGESYLSQCNKVYTNLEGNRPHLVNTAWVLMALIEAGQAERDPTPLHRAARLLI
SgCDS	ELPGGGWGESYLSQCNKVYTNLEGNRPHLVNTAWVLMALIEAGQAERDPTPLHRAARLLI
CpCAS_mut	ELAAGGWGESYLSQCNKVYTNIKDDRPHIVNTGWAMLALIDAGQSERDPTPLHRAARVLI
PsCAS_mut	QLPSGGWGESYLSQCNKVYSNLEGNRSHVNTGWAMLALIEAEQAKRDPTPLHRAAVCLI
AaCAS_mut	QLASGGWGESYLSQCNKVYTNLEGNRSHVNTGWAMLALIDAEQAKRDPTPLHRAARVLI
	:*..***.***** ***(I553M) (A553S):*..***.***** ***(I553M) (A553S)
ECDS (CcCDS)	NSQLENGDFPQEEIMGVFNKNCMITYAAARNIFPIWALGEYFHRVLT---
SgCDS	NSQLENGDFPQEEIMGVFNKNCMITYAAARNIFPIWALGEYCHRVLT---
CpCAS_mut	NSQMEDGDFPQEEIMGVFNKNCMISYAYRNIFPIWALGEYRSRVLPKPLK--
PsCAS_mut	NSQLENGDFPQEEIMGVFNKNCMITYAAAYRCIFPIWALGEYR-RVLQAC---
AaCAS_mut	NSQMENGEFPQEEIMGVFNKNCMITYAAARNIFPIWALGEYRCRVLPKLVET--
	: *::*****.*****:*** ***** ***(I553M) (A553S):***

FIG. 6

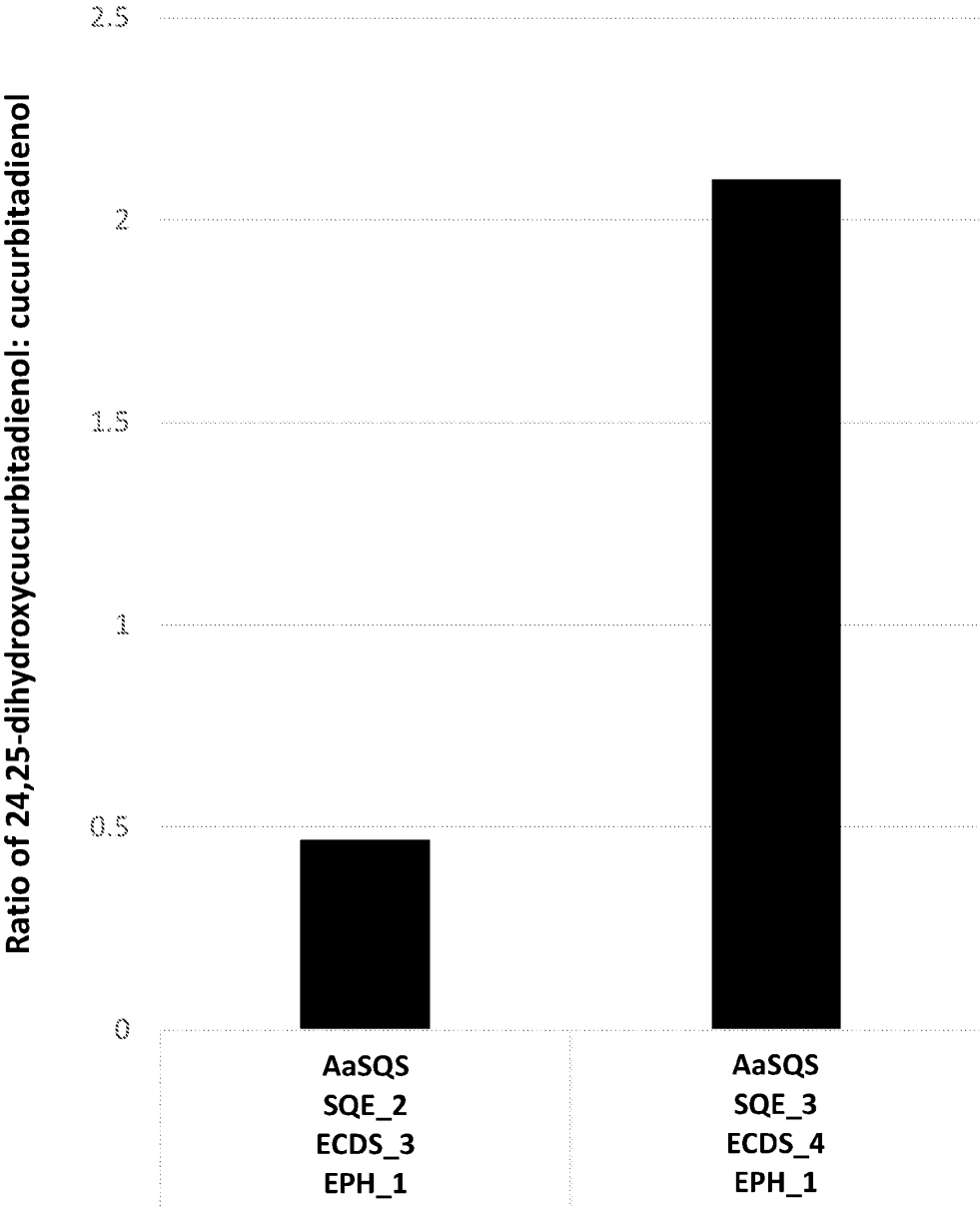


FIG. 7A

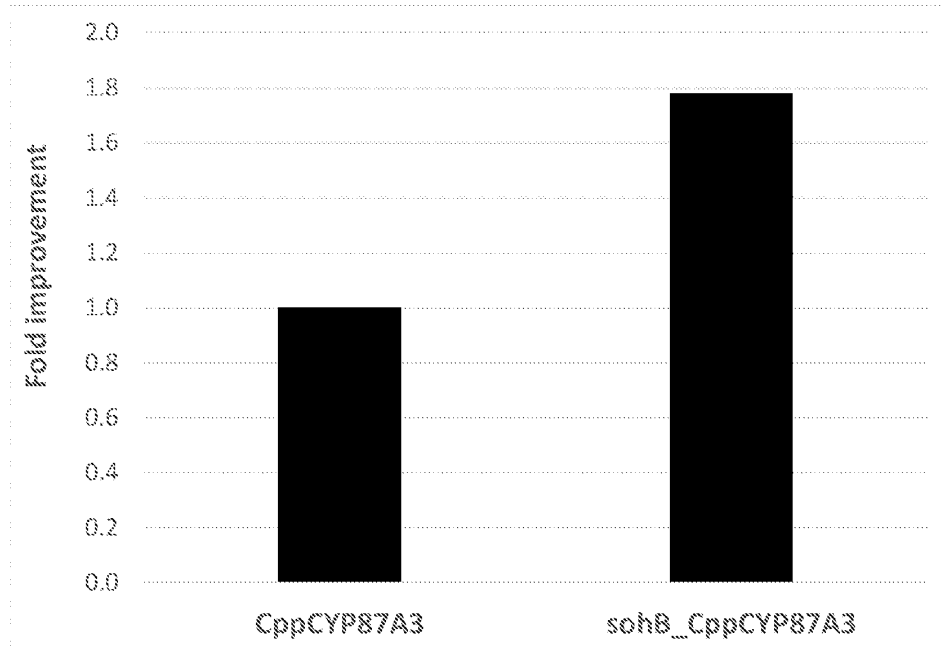


FIG. 7B

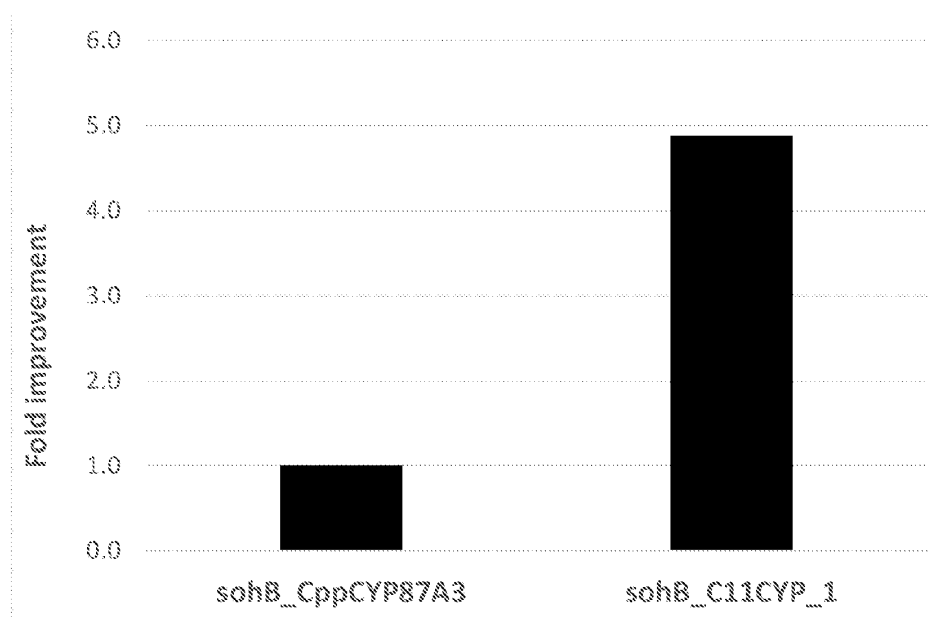


FIG. 7C

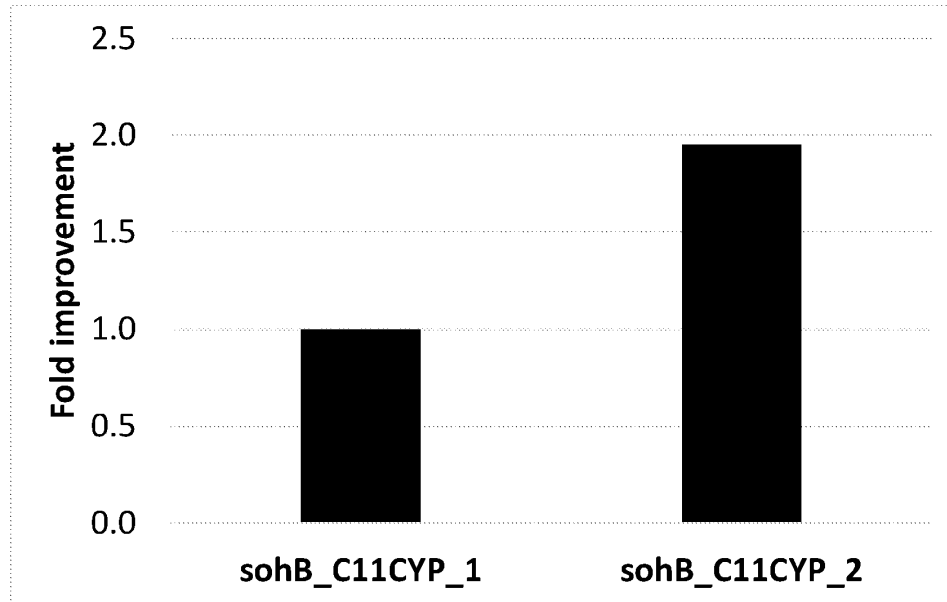


FIG. 7D



FIG. 7E

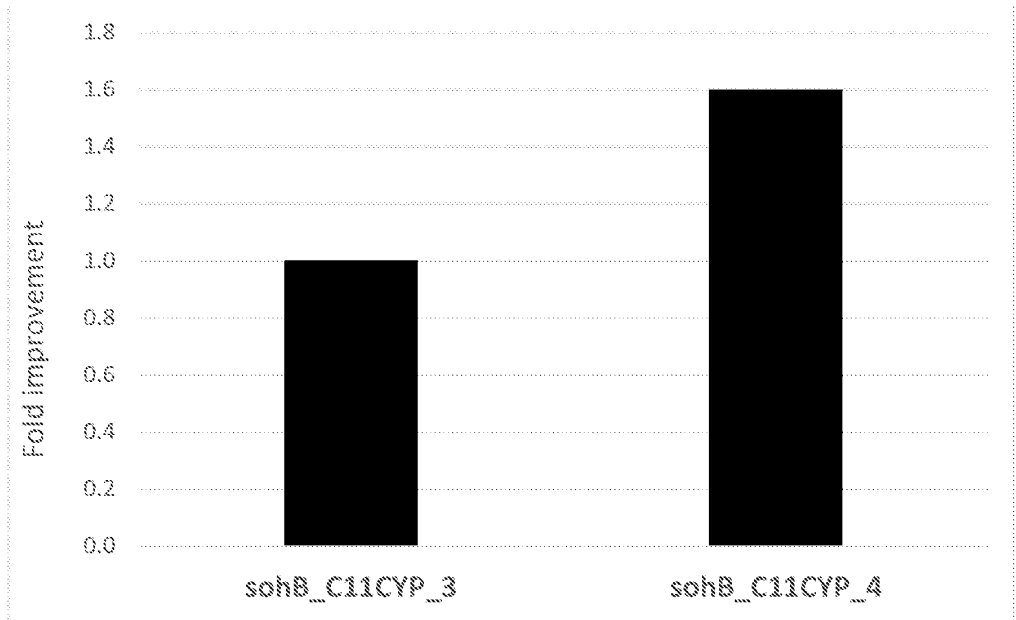


FIG. 7F

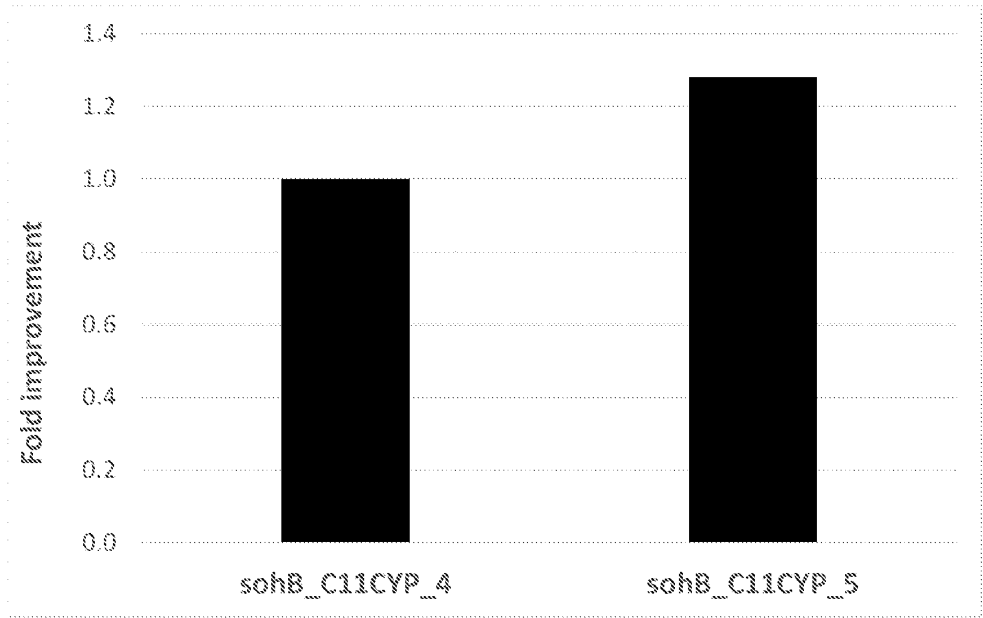


FIG. 7G

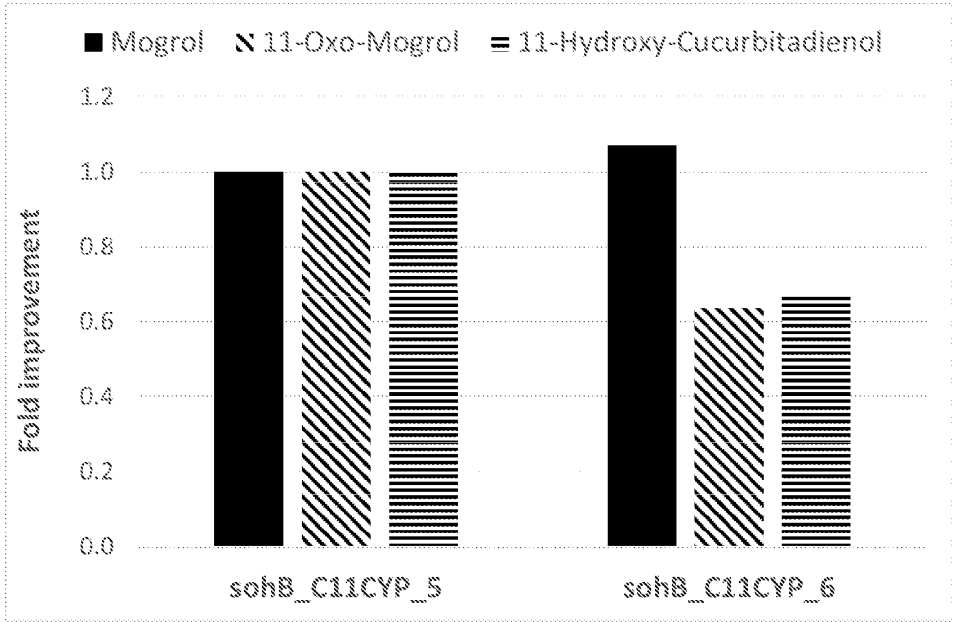


FIG. 7H

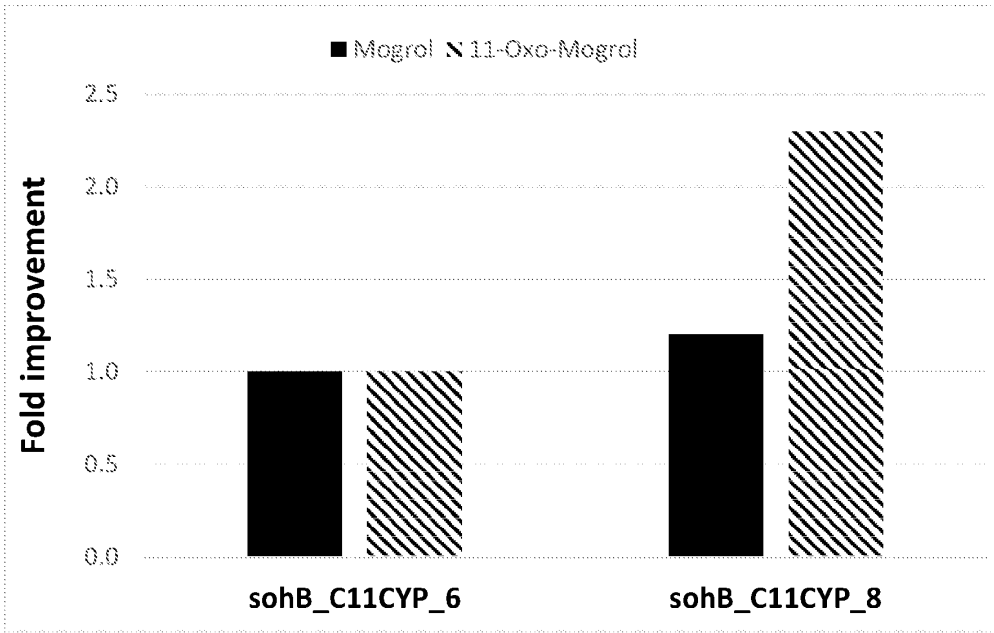


FIG. 7I

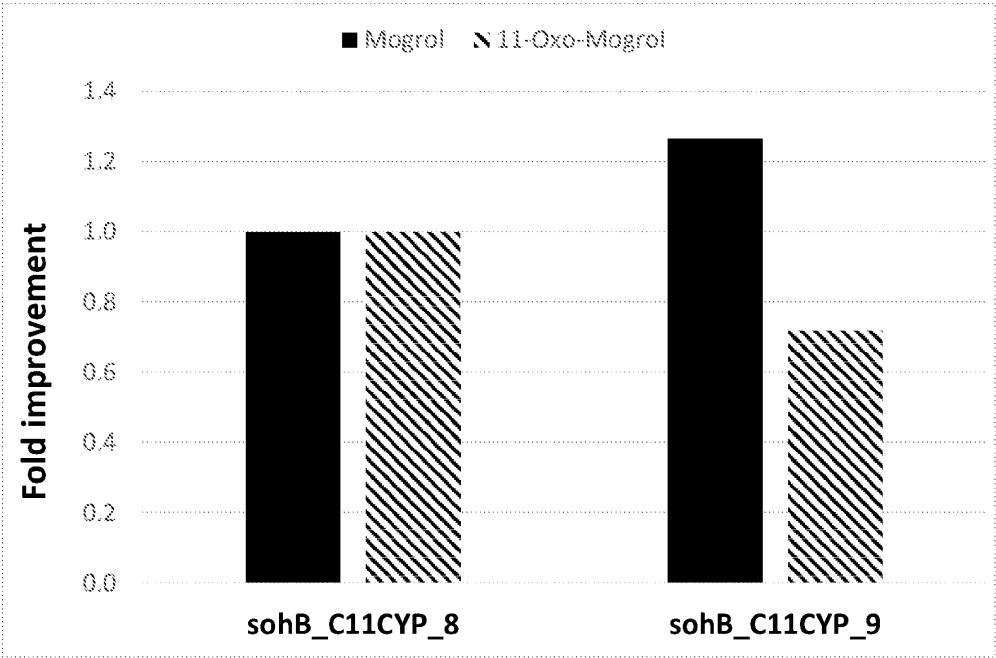


FIG. 7J

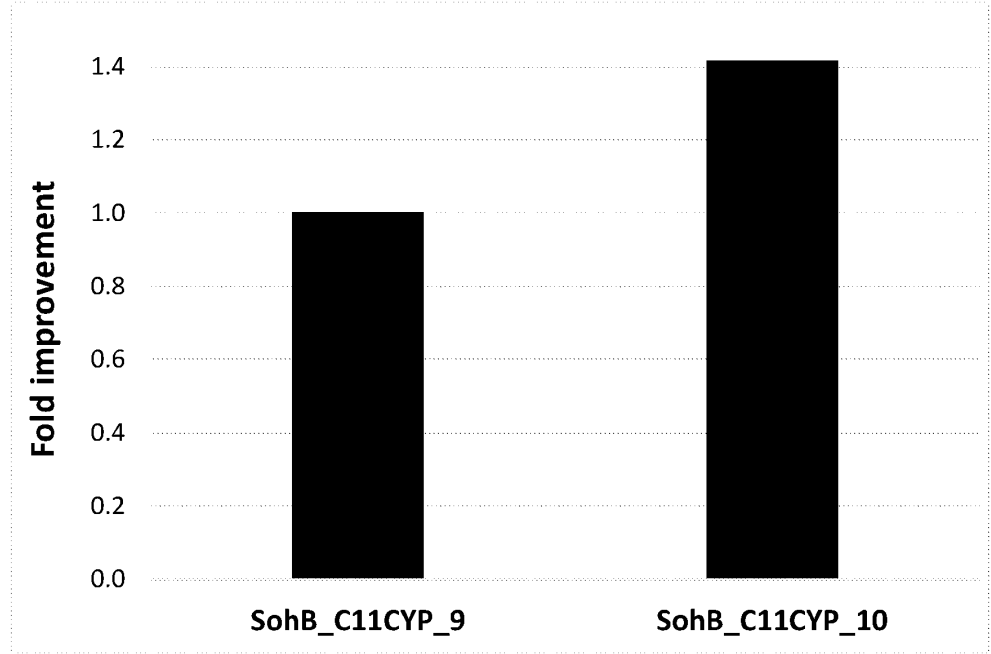


FIG. 7K

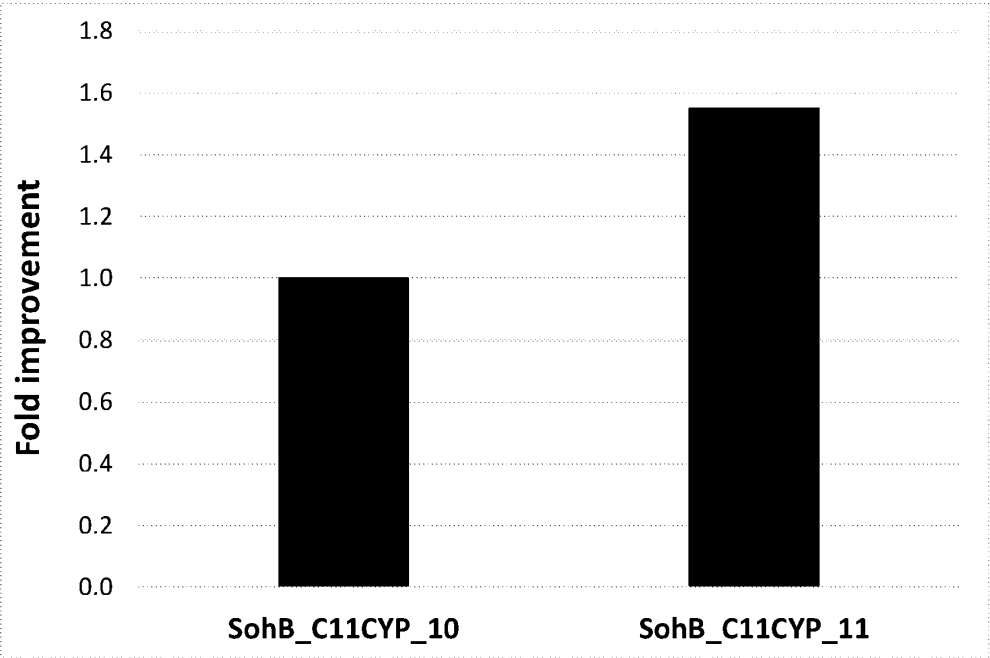


FIG. 7L

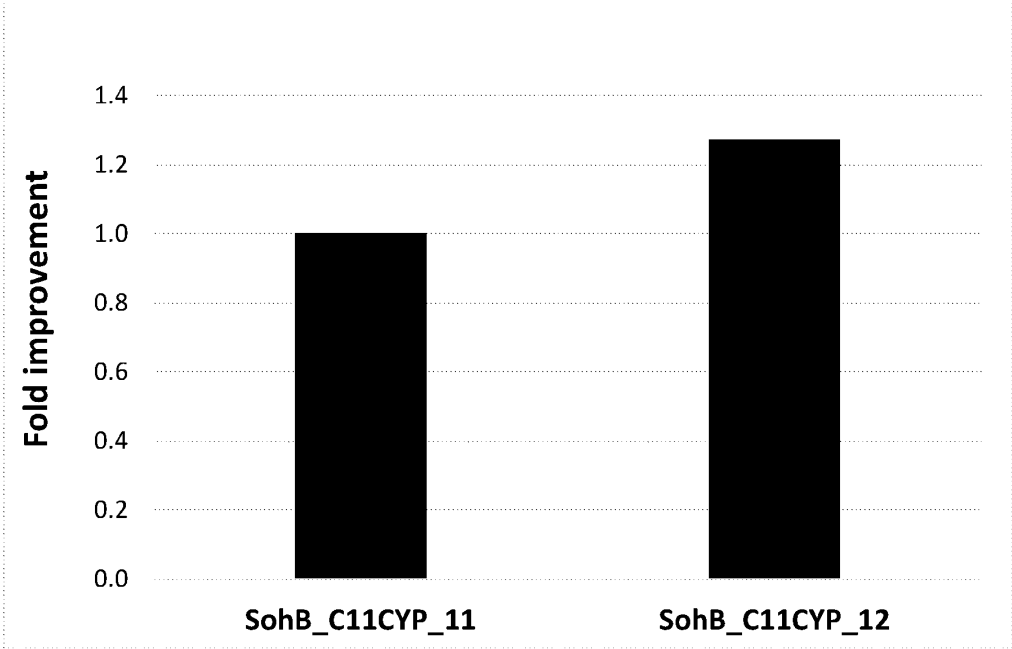


FIG. 7M

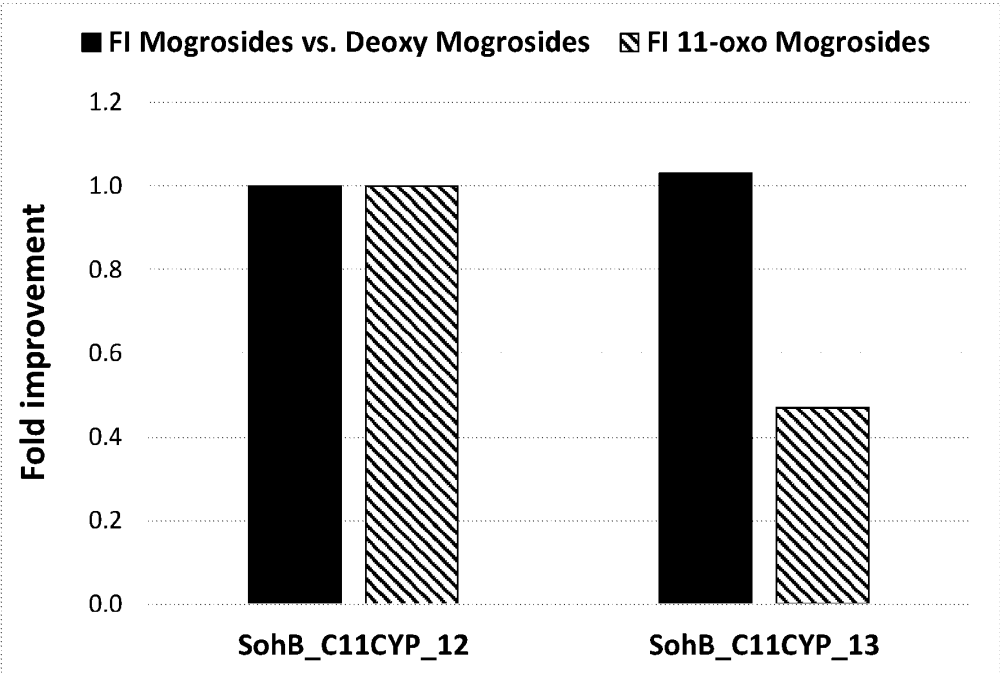


FIG. 7N



FIG. 7O

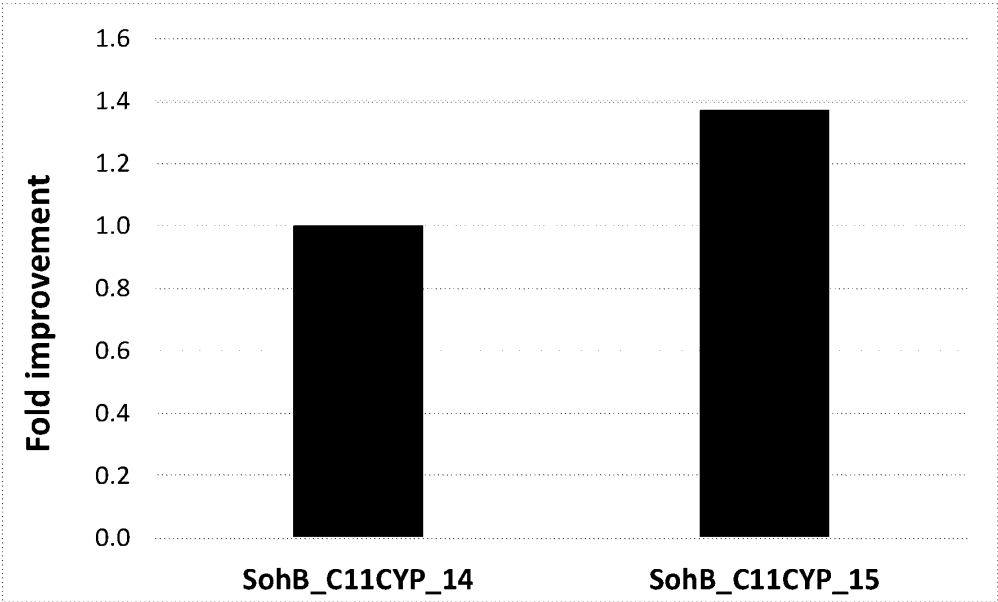


FIG. 7P

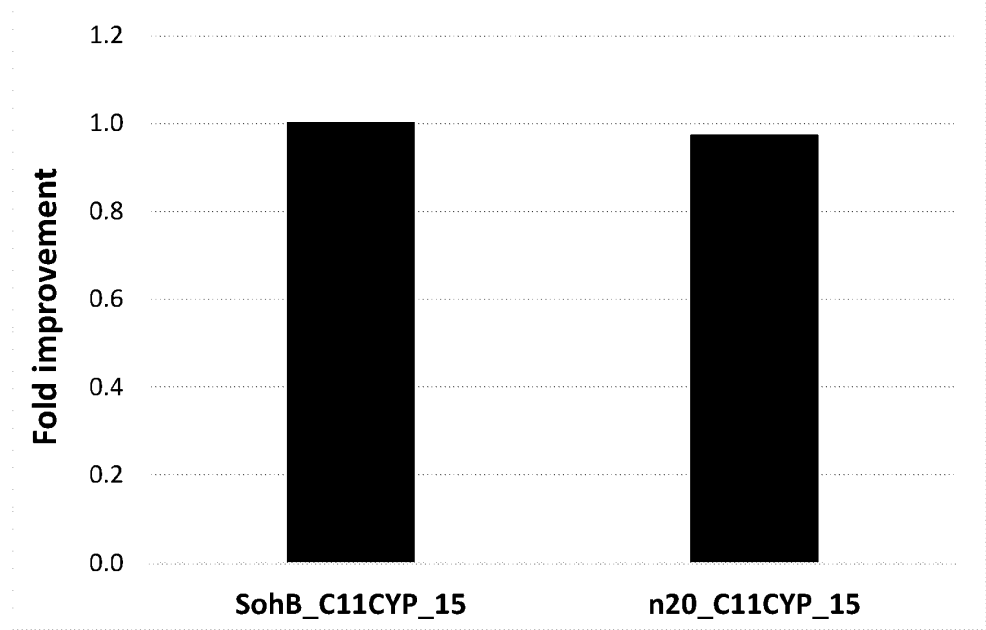


FIG. 7Q

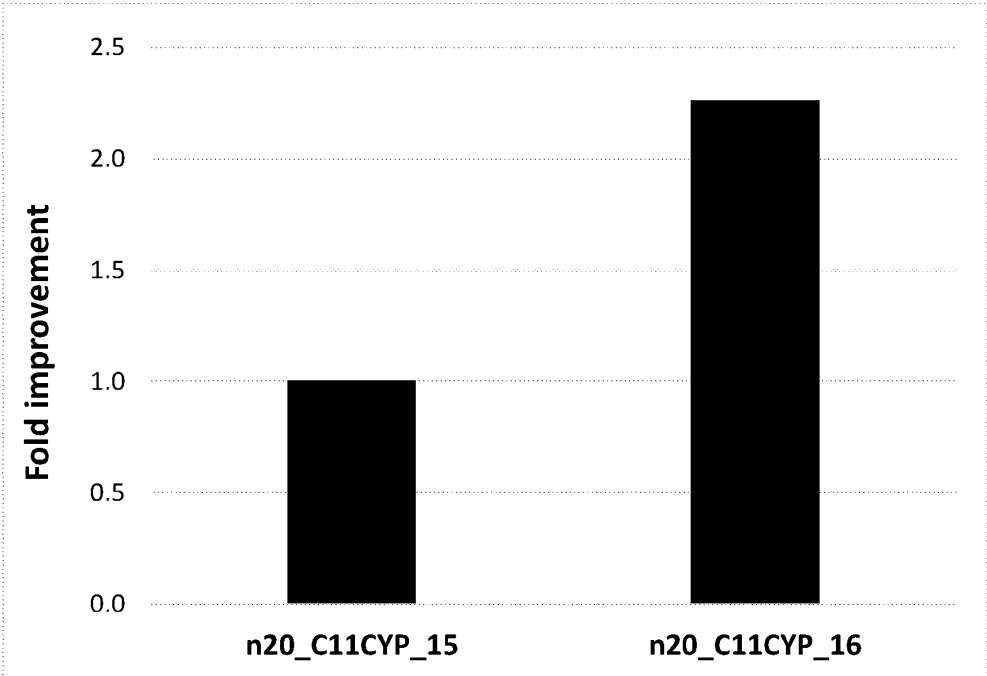


FIG. 7R

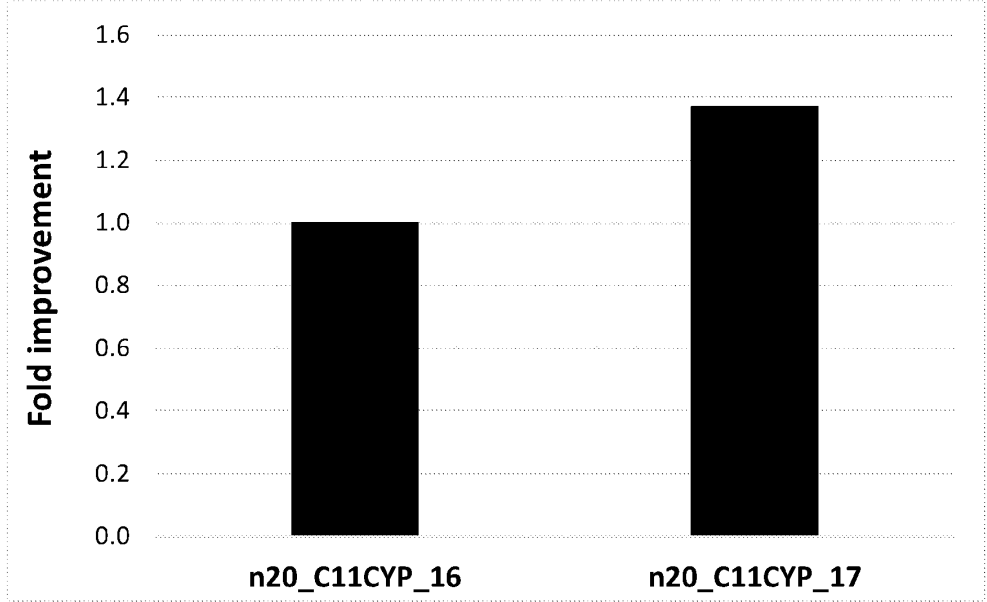


FIG. 7S

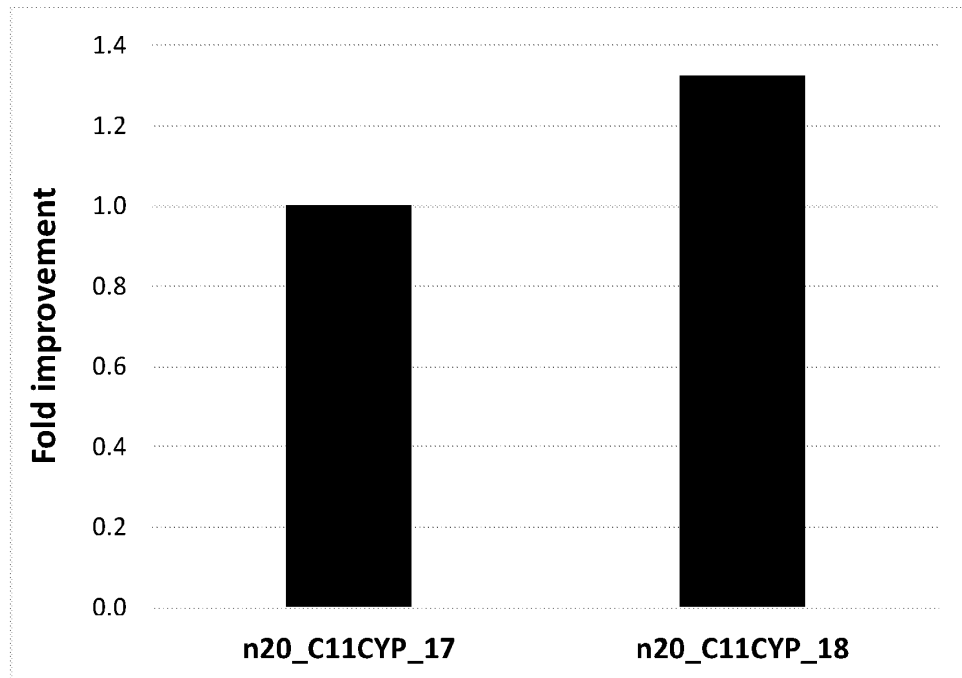


FIG. 7T

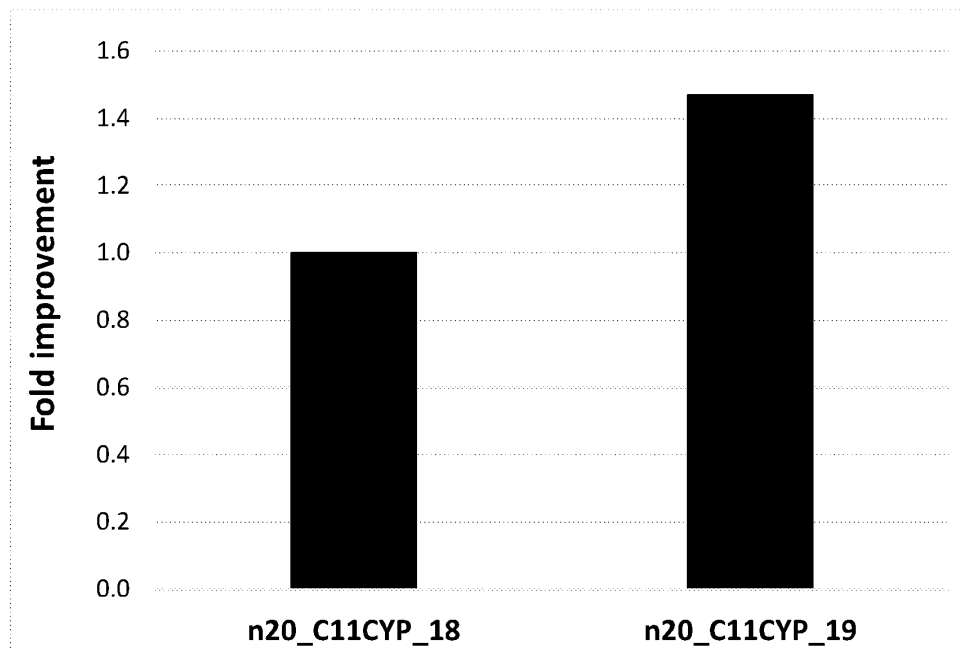


FIG. 8A

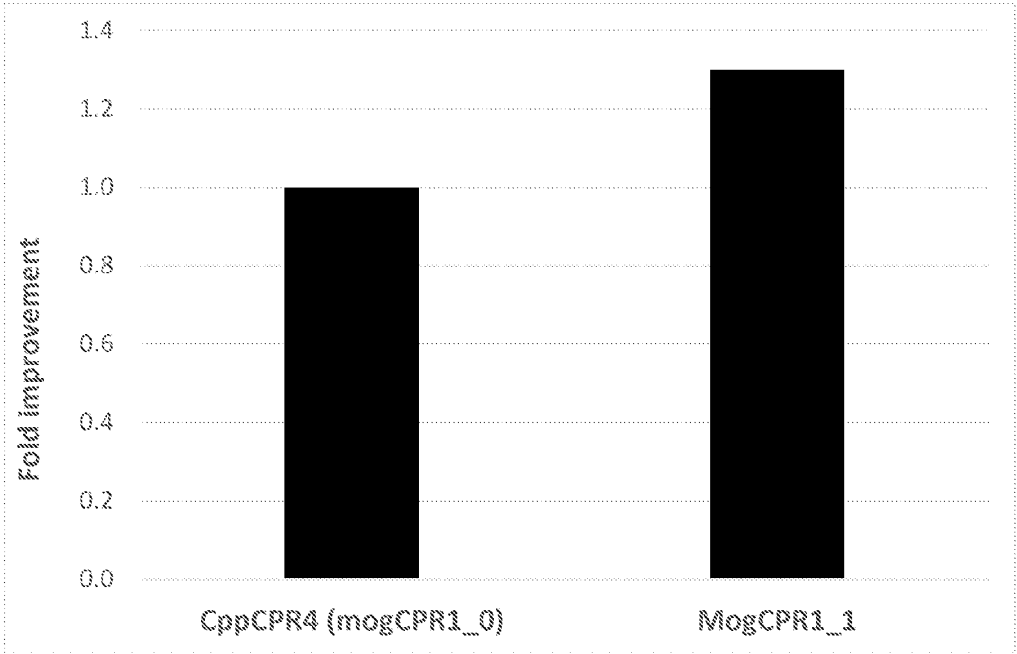


FIG. 8B

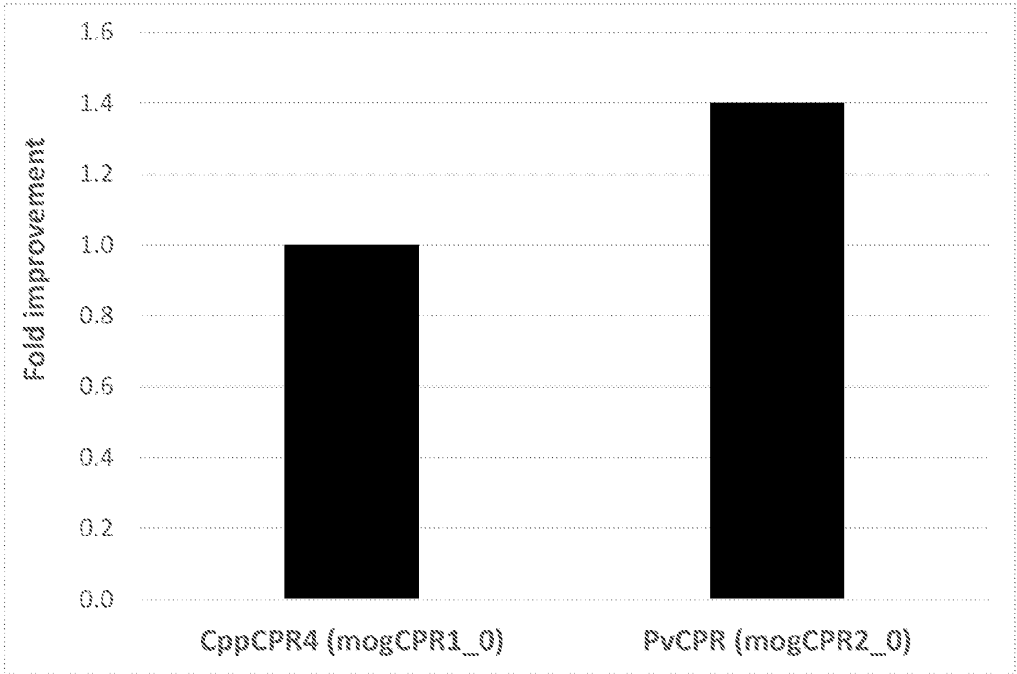


FIG. 8C

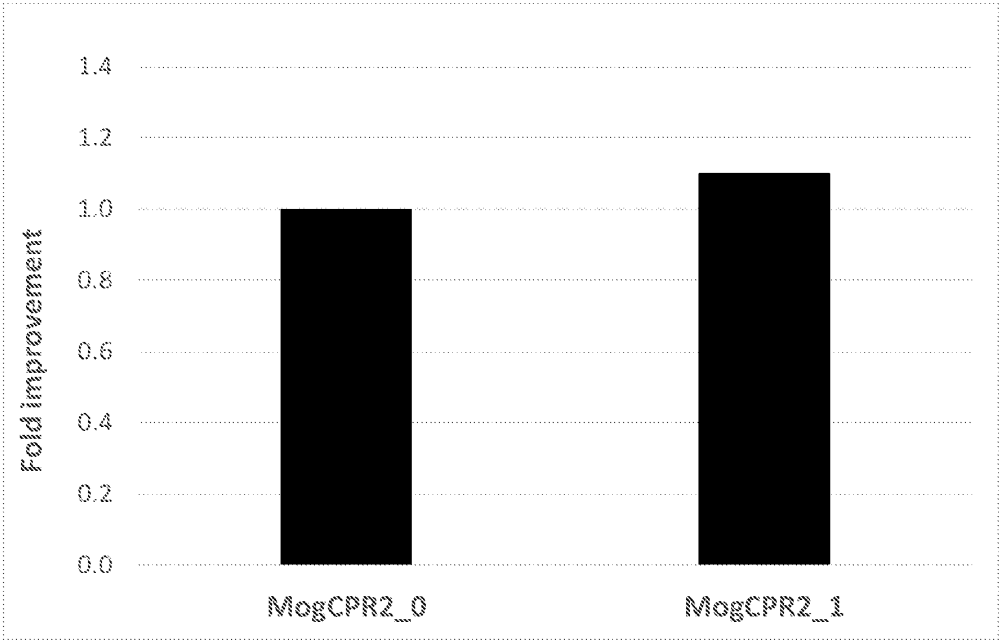


FIG. 8D

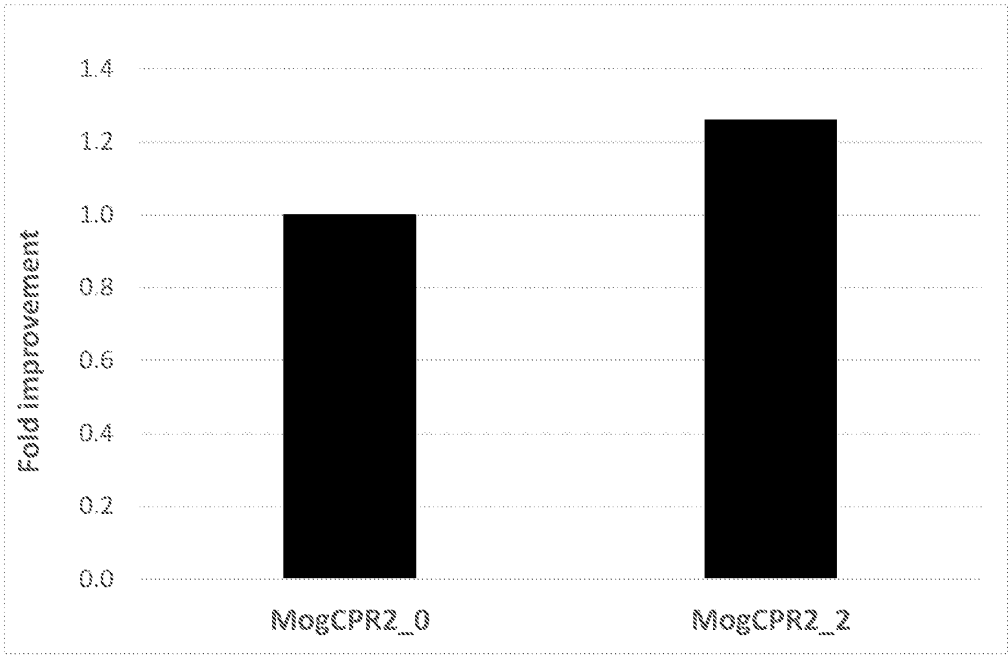


FIG. 9A

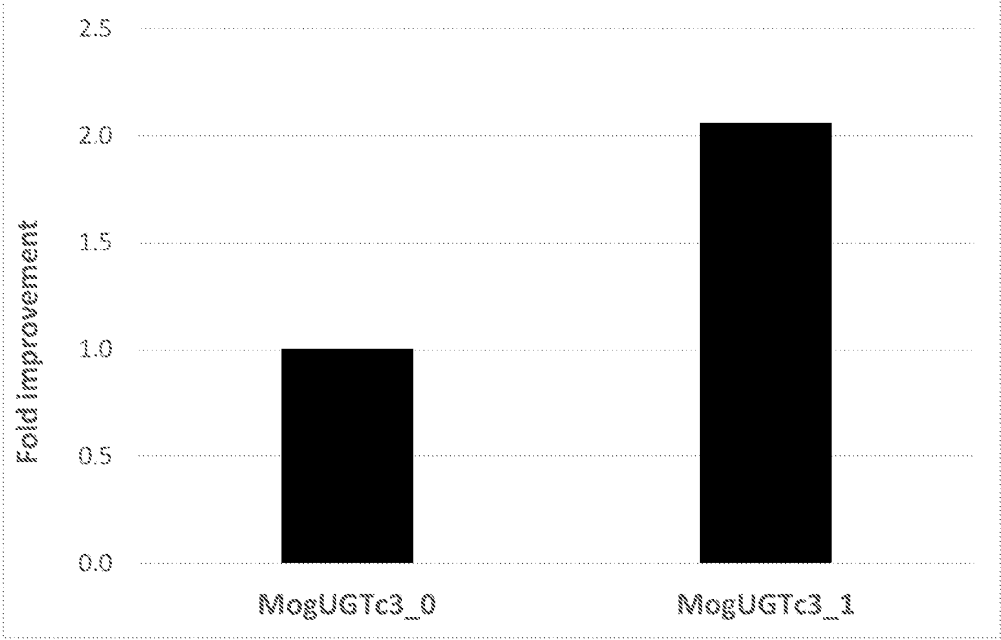


FIG. 9B

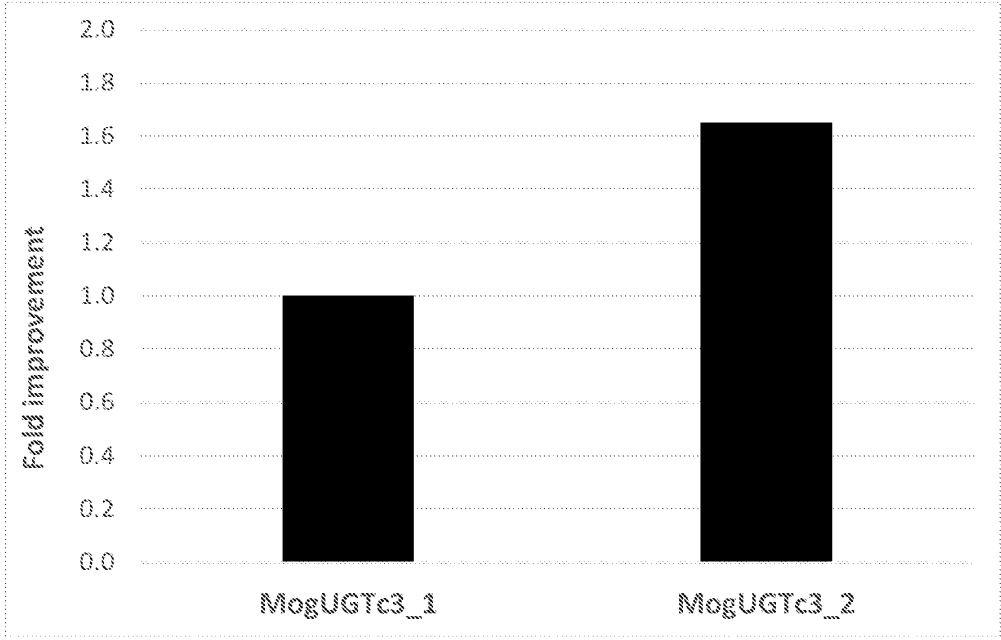


FIG. 9C

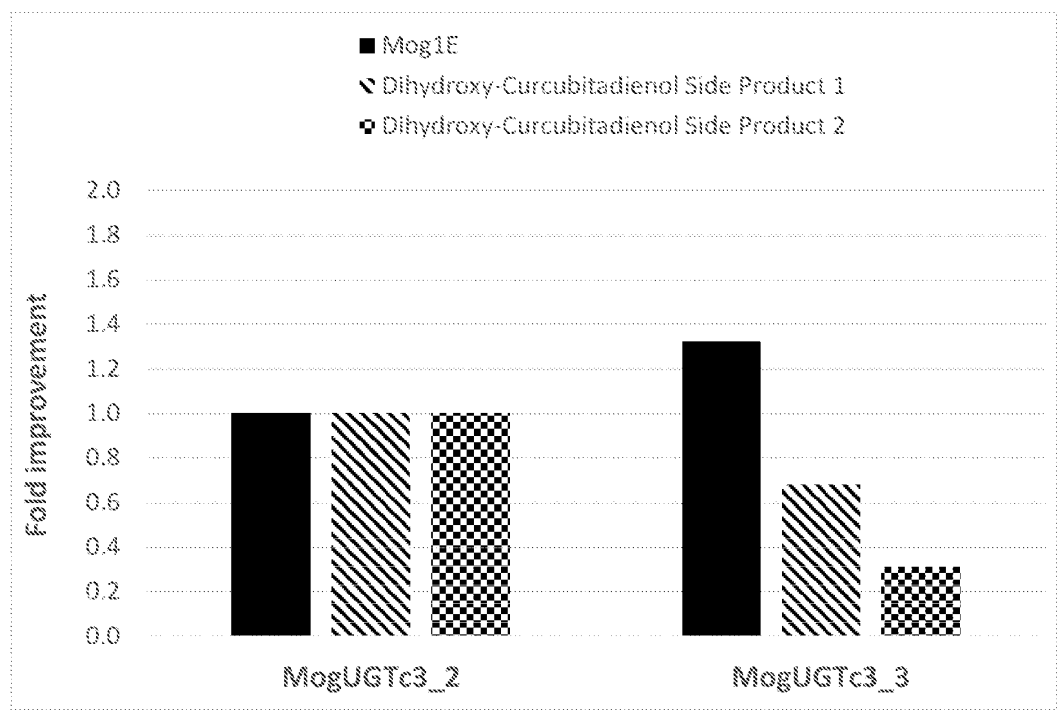


FIG. 9D

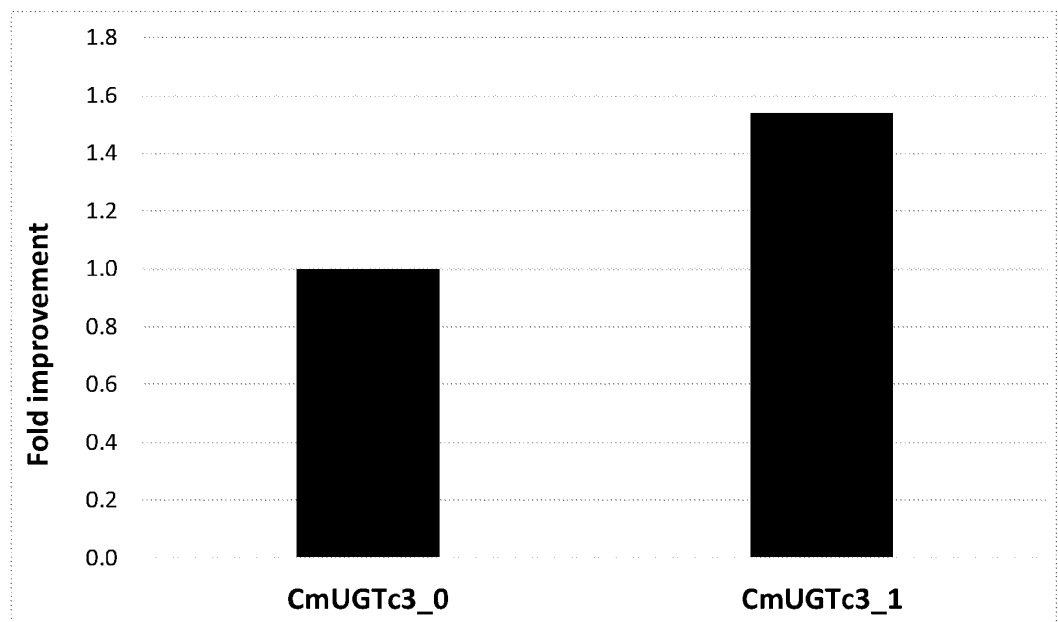


FIG. 9E

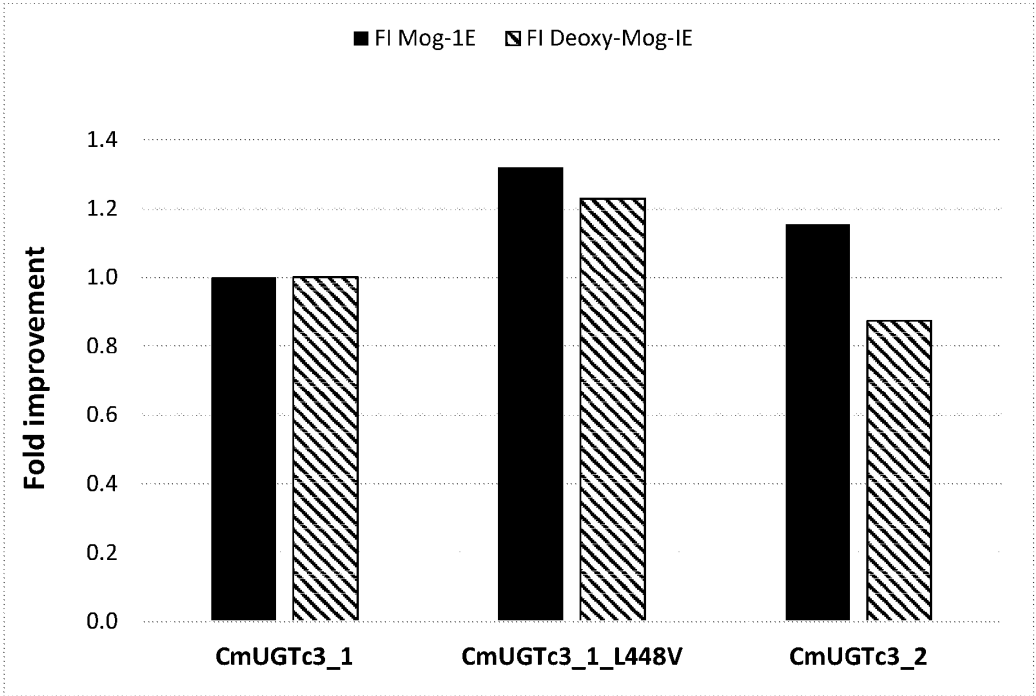


FIG. 9F

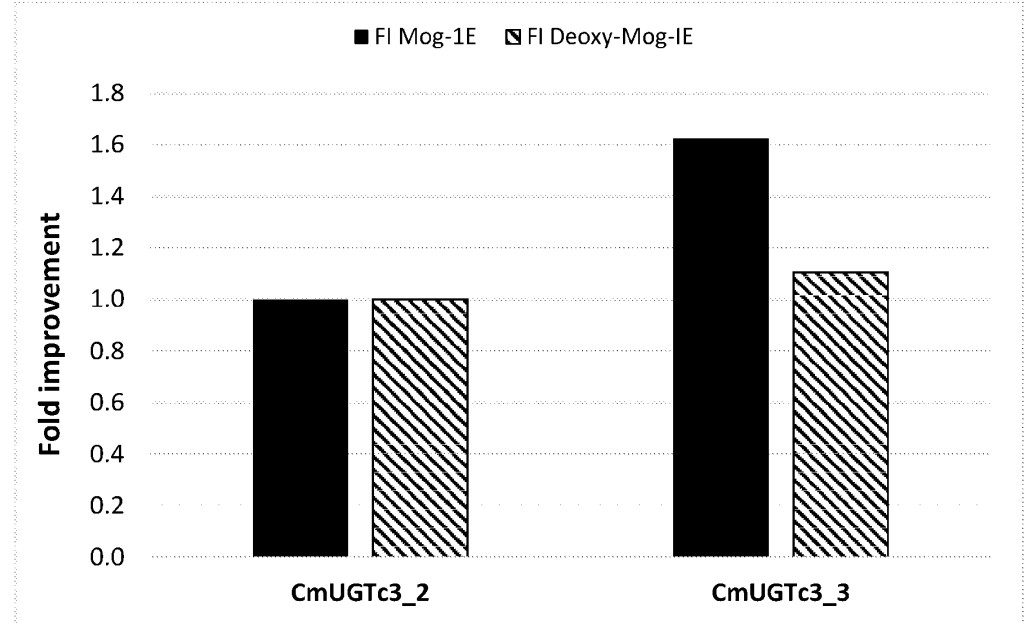


FIG. 10A

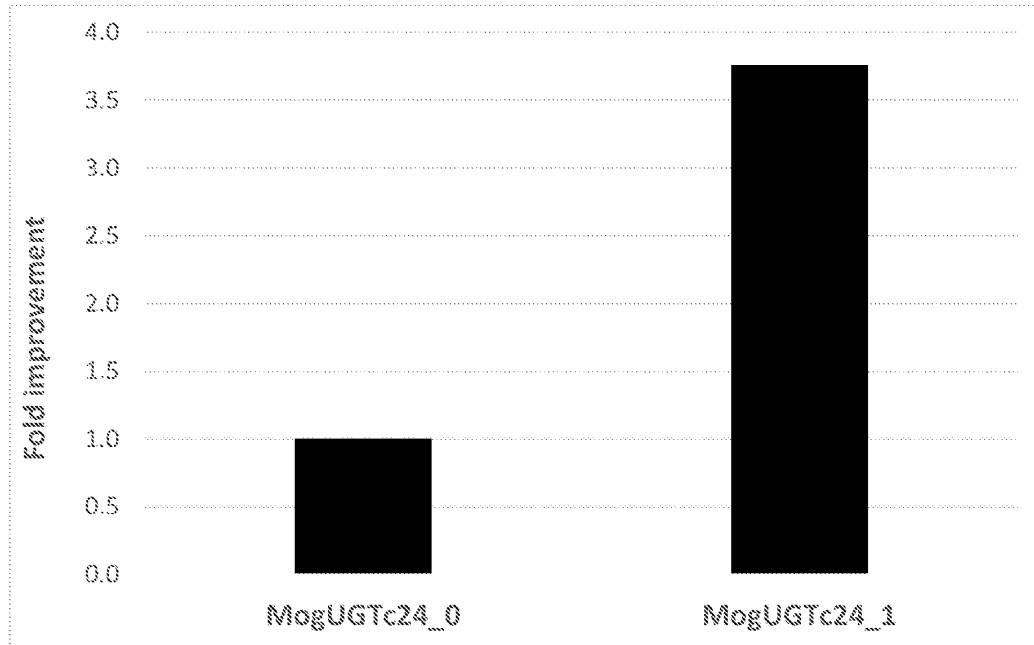


FIG. 10B

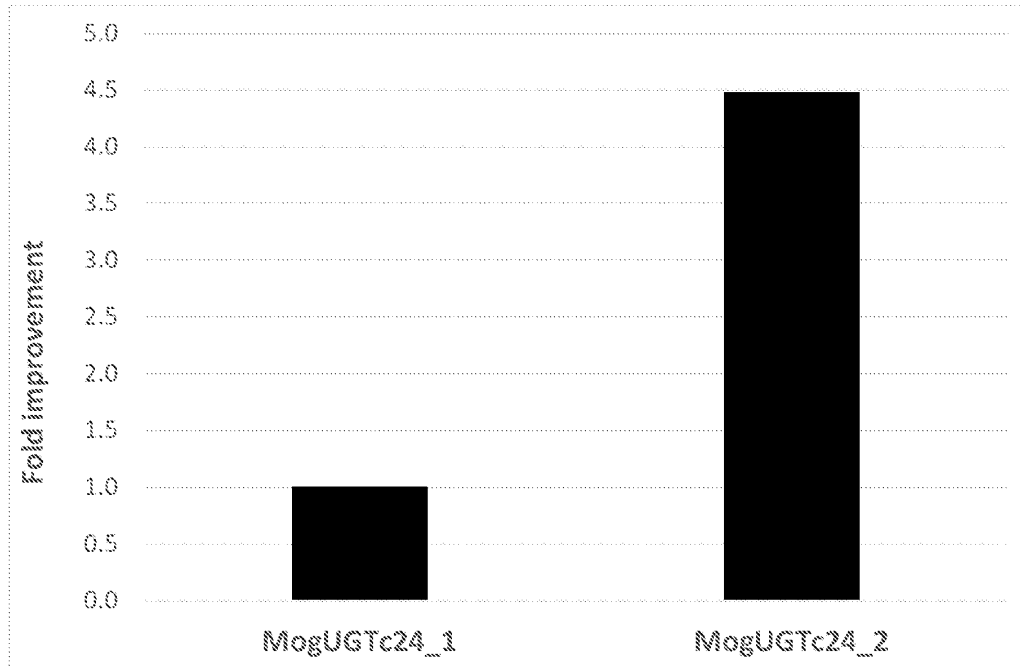


FIG. 10C

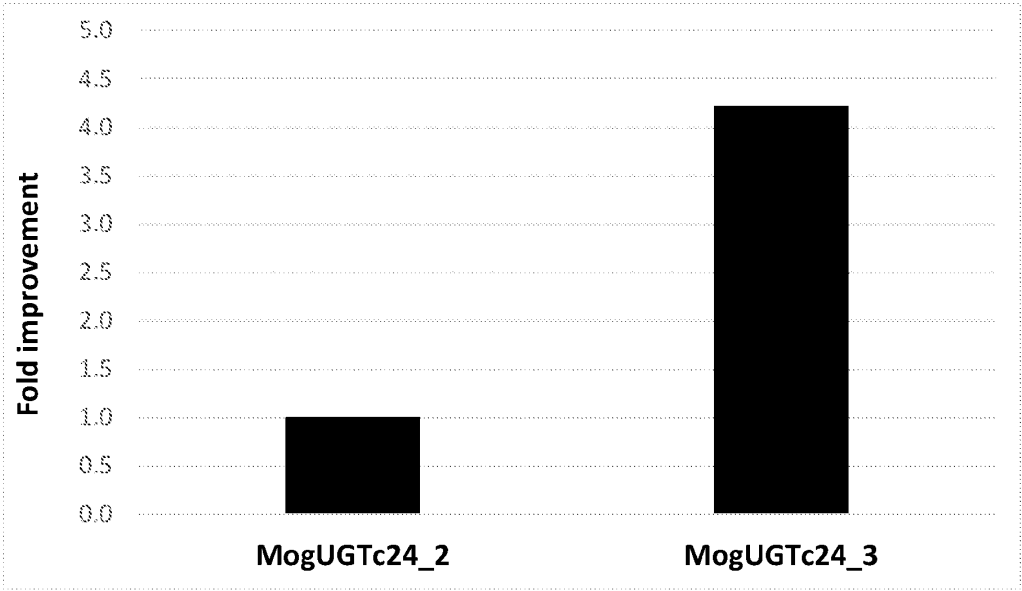


FIG. 10D

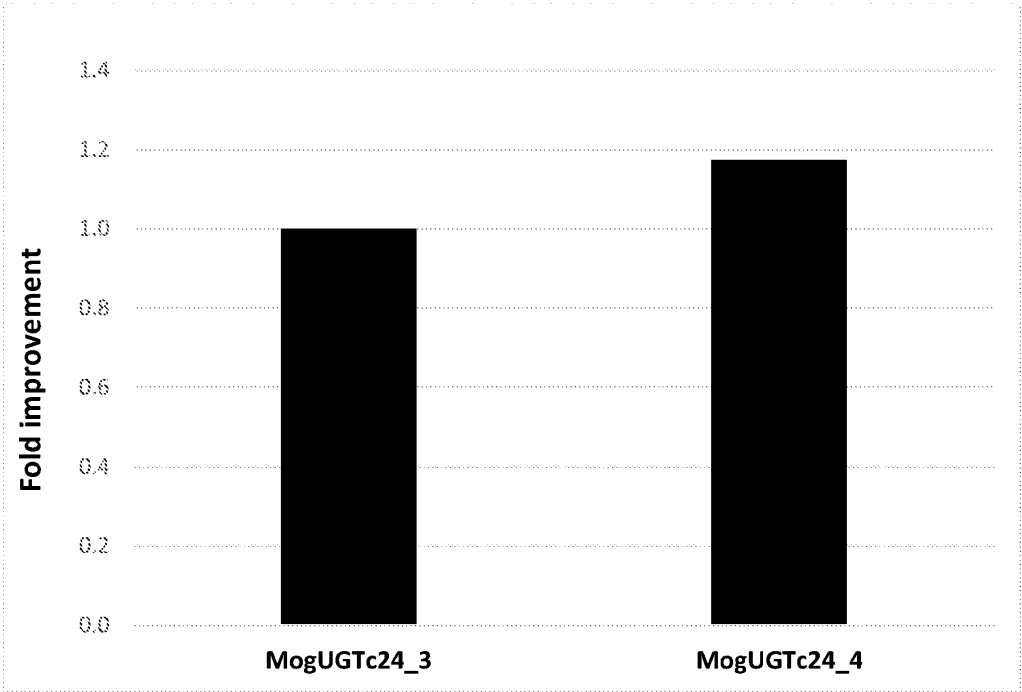


FIG. 10E

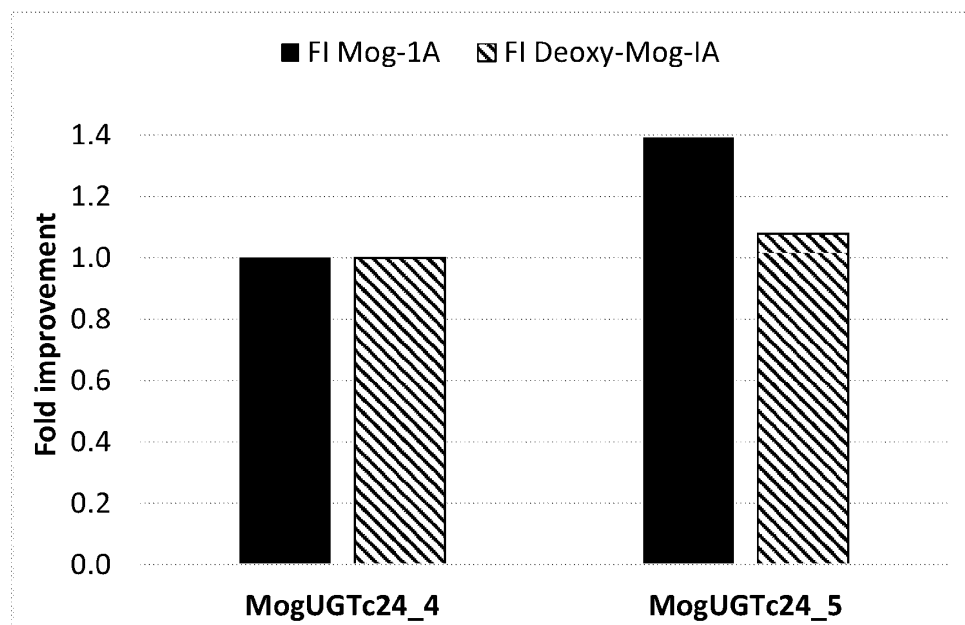


FIG. 11A

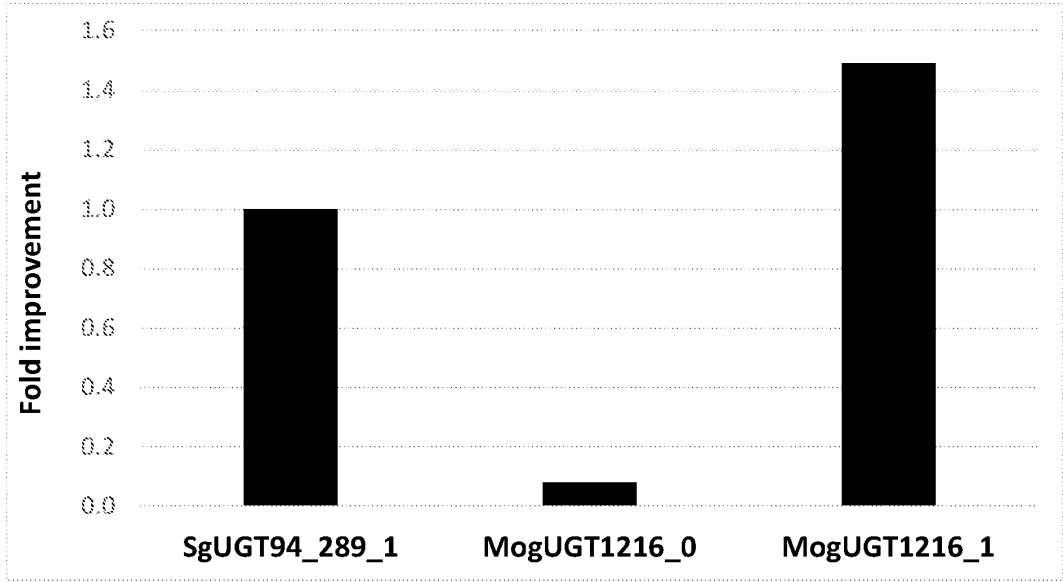


FIG. 11B

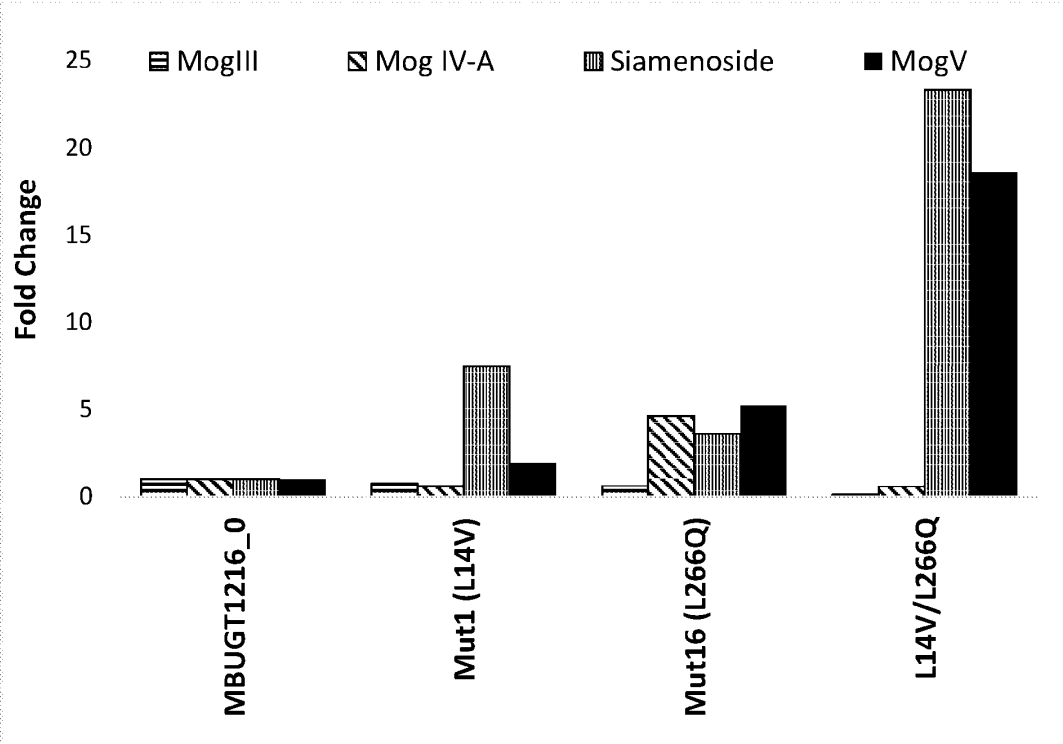


FIG. 11C

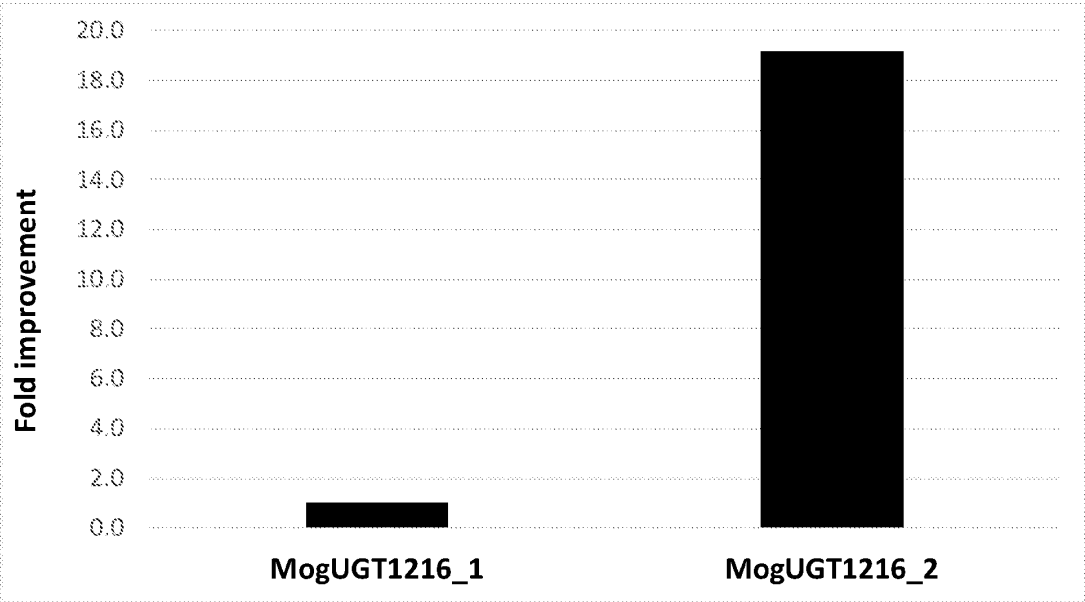


FIG. 11D

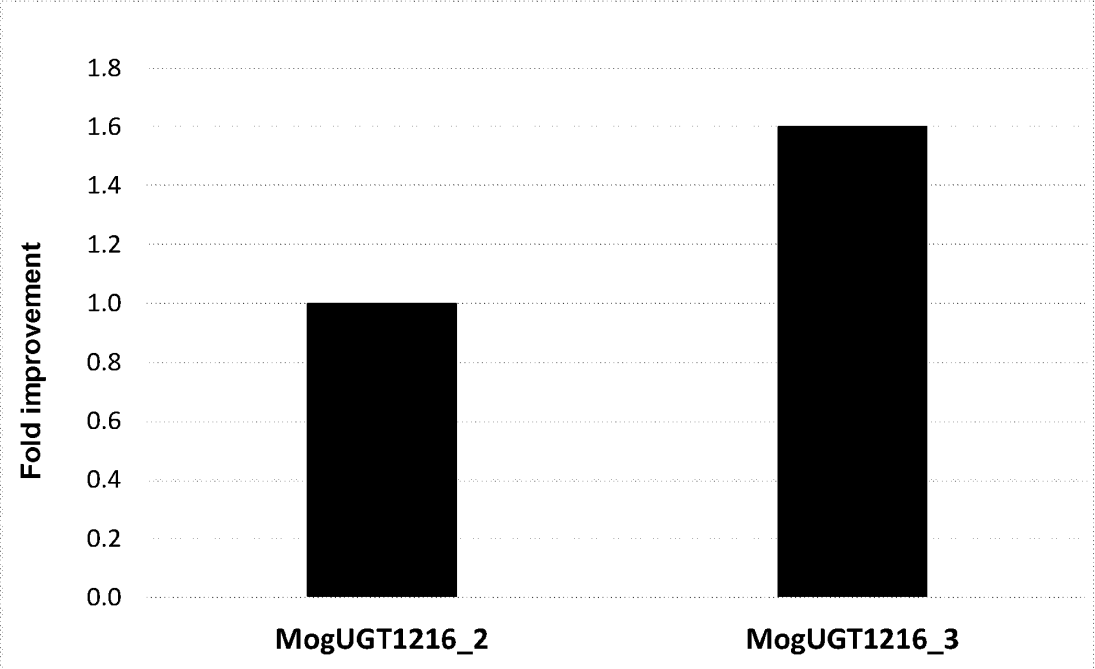


FIG. 12

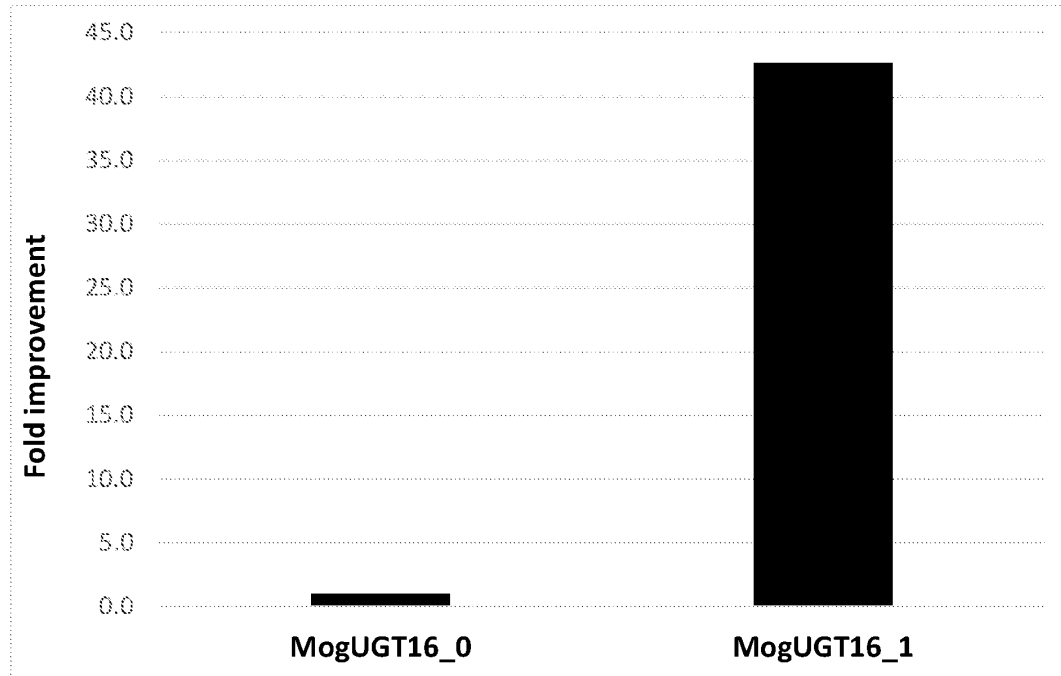


FIG. 13A

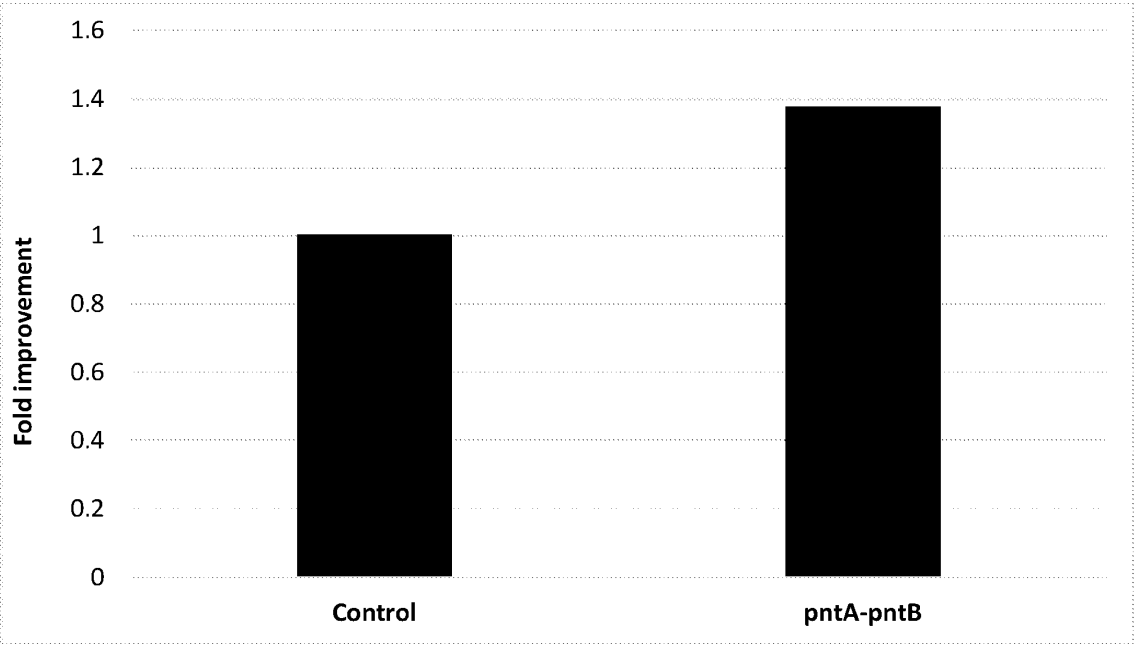


FIG. 13B

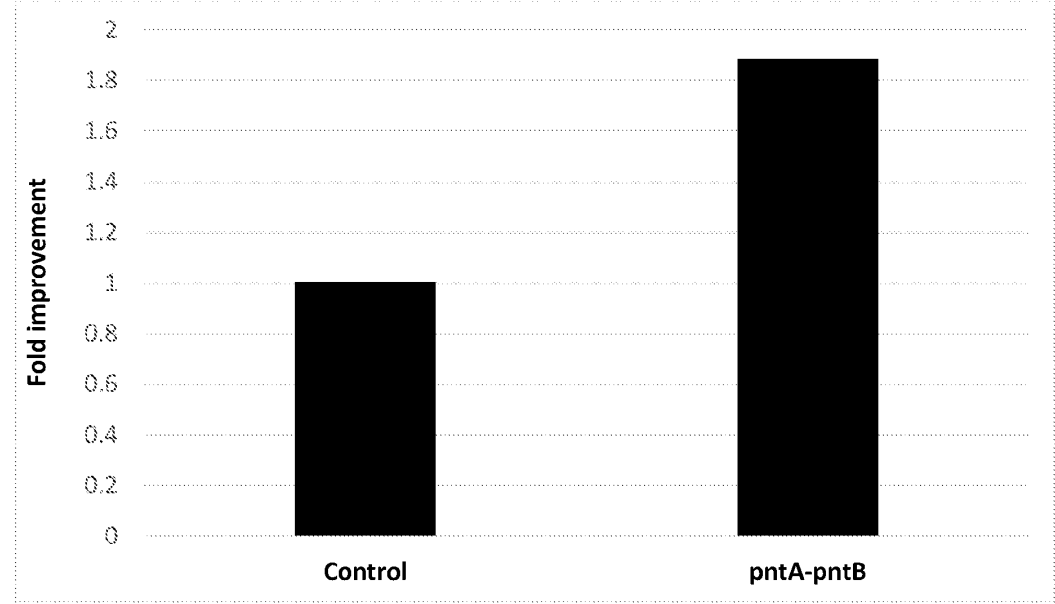


FIG. 13C

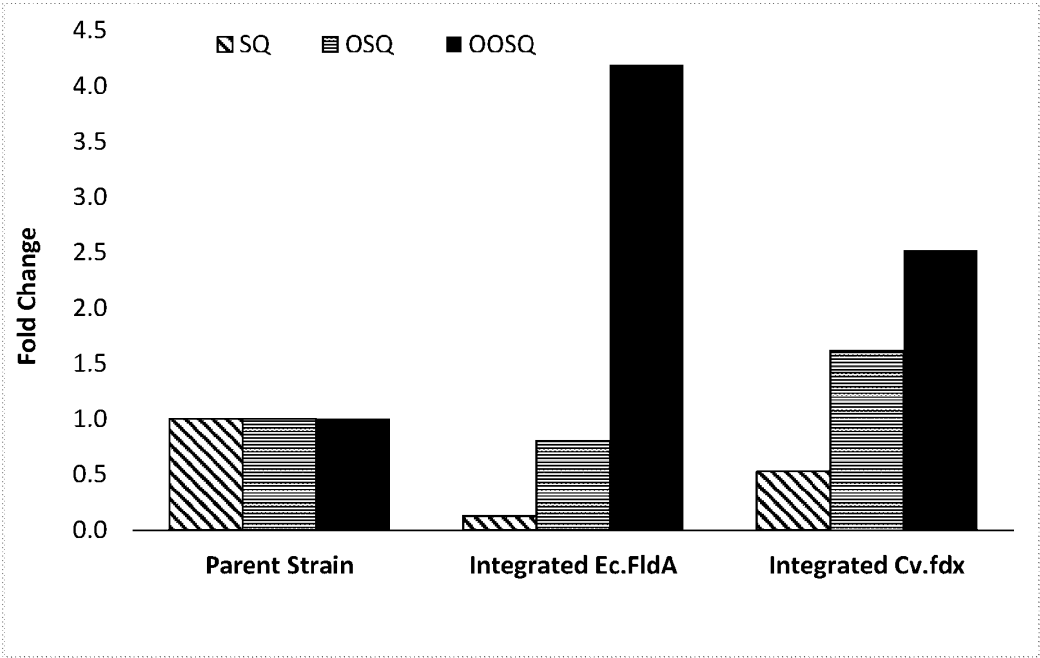


FIG. 14A

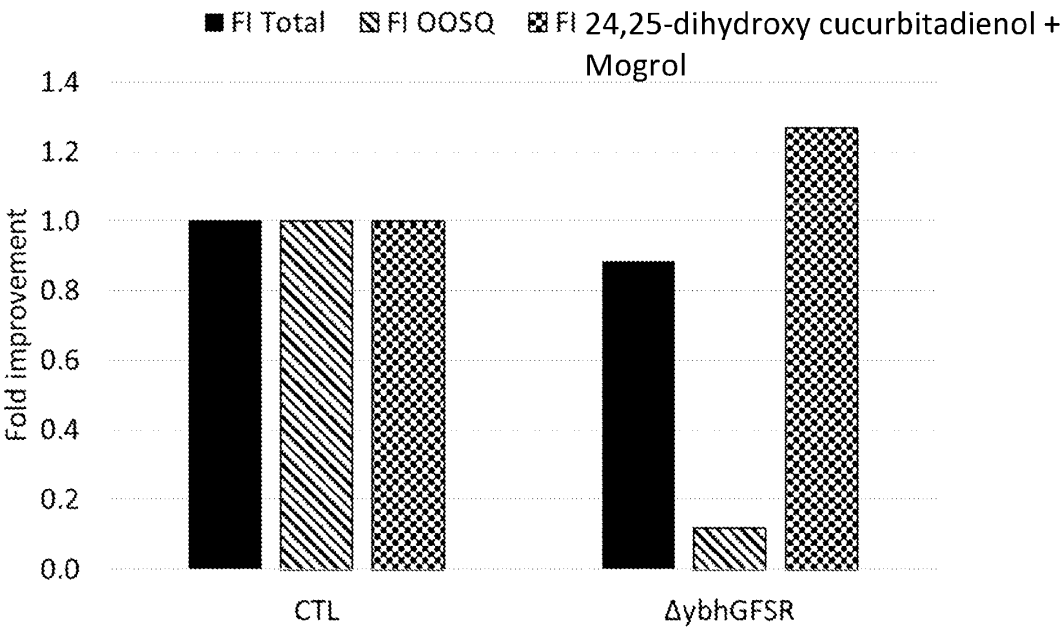


FIG. 14B

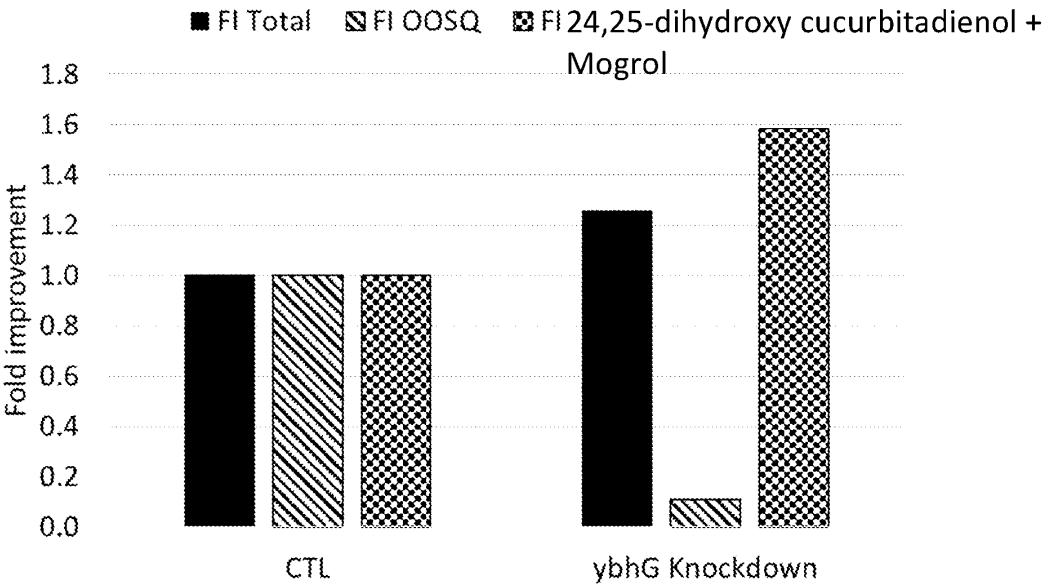


FIG. 14C

