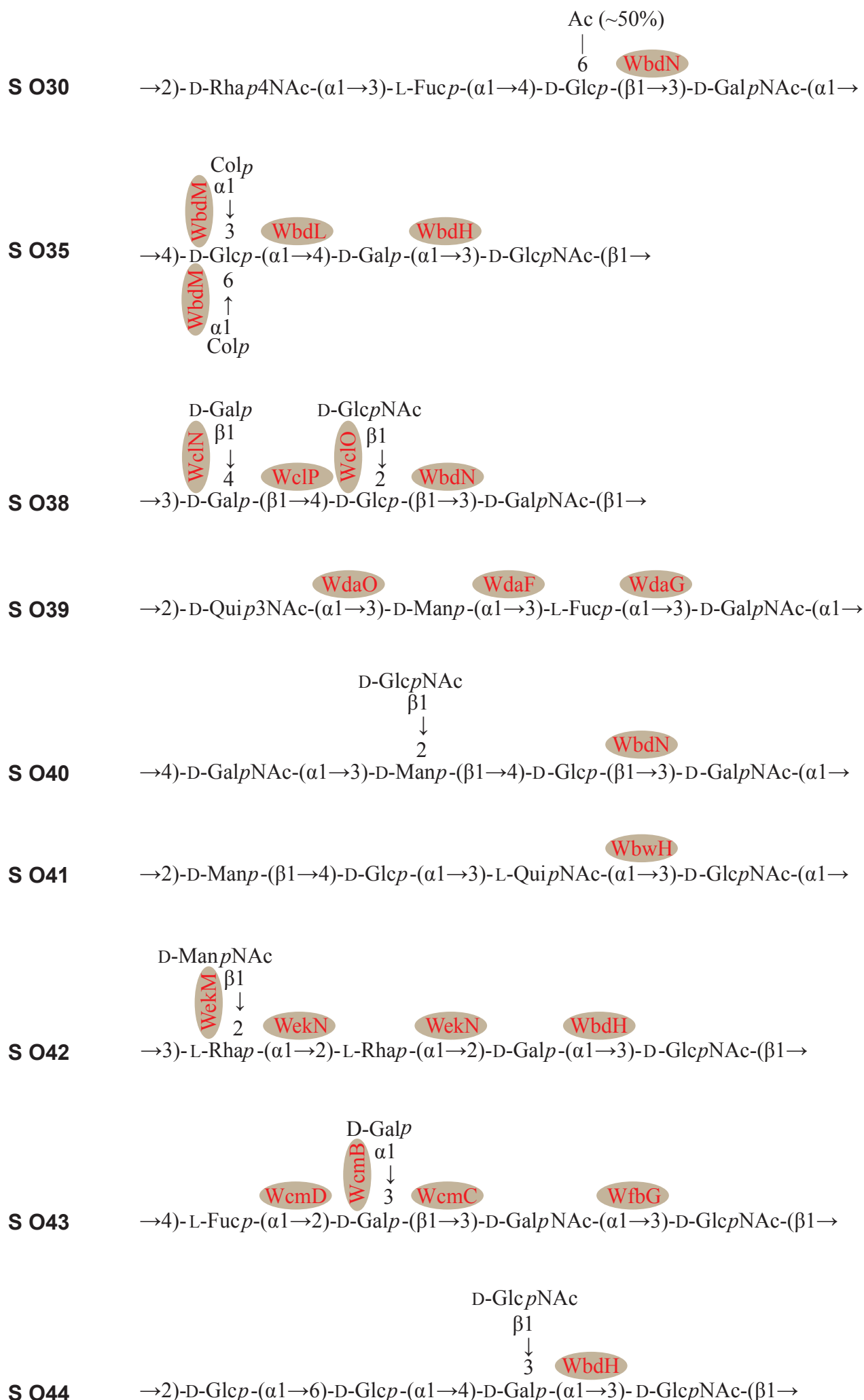
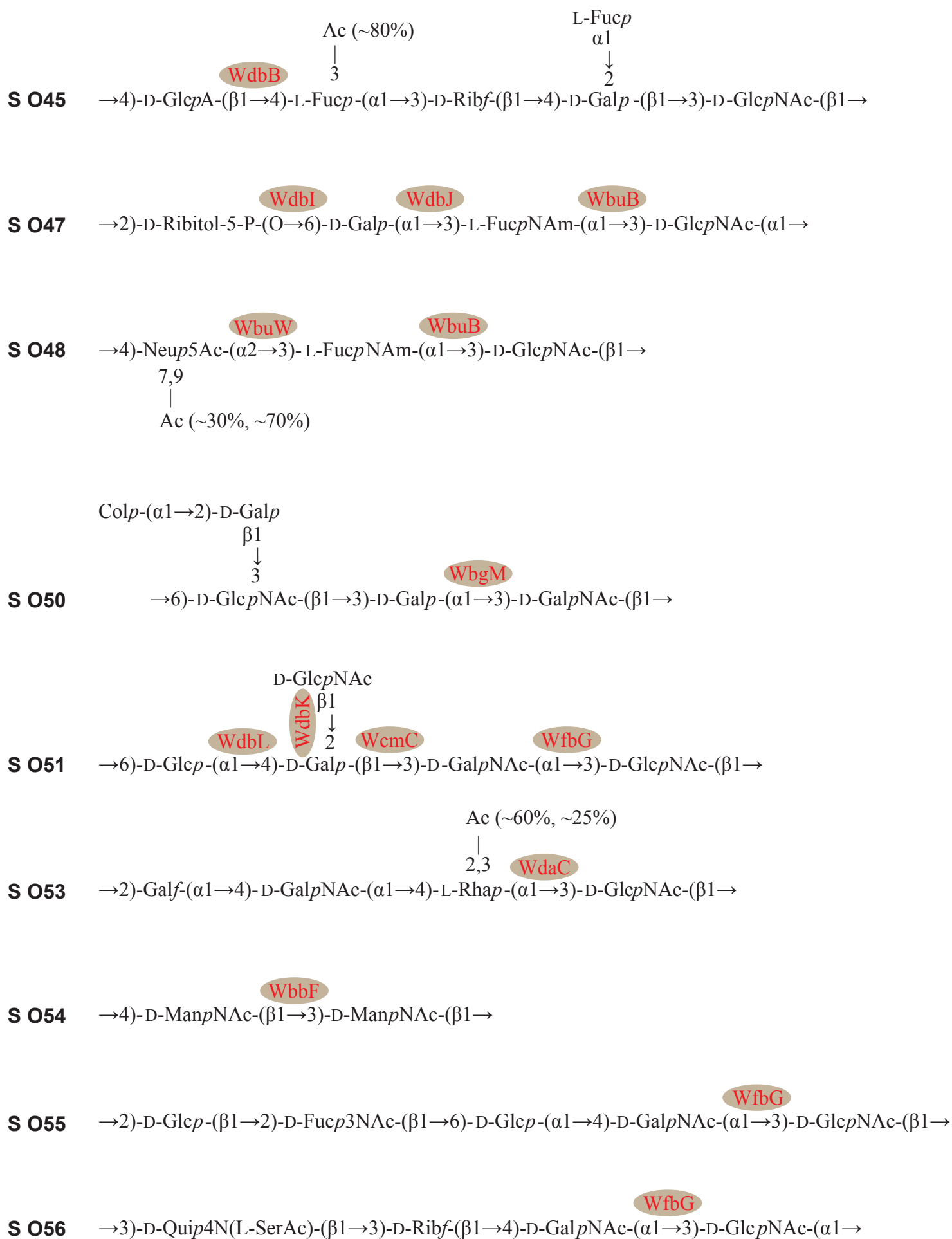


supplementary Fig.1



supplementary Fig.1



S O58 $\rightarrow 3$)-D-Quip₄N(D-Ala-S3Hb)-(β1→6)-D-GlcpNAc-(α1→3)-L-QuipNAc-(α1→3)-D-GlcpNAc-(α1→

WbwH

S O59 $\rightarrow 2$)-D-Galp-(β1→3)-D-GlcpNAc-(α1→4)-L-Rhap-(α1→3)-D-GlcpNAc-(β1→

WdaC

D-Fucp₃NFo
α1
↓
3

S O60 $\rightarrow 2$)-D-Manp-(β1→3)-D-Glcp-(β1→3)-D-GlcpNAc-(β1→

WbdN

S O61 $\rightarrow 8$)-8eLegp₅R3Hb7Ac-(α2→3)-L-FucpNAmp-(α1→3)-D-GlcpNAc-(α1→

WdcM WbuB

α-D-GalpNAcA6NH₂
α1
↓
2

S O62 $\rightarrow 3$)-L-Rhap-(α1→2)-L-Rhap-(α1→3)-L-Rhap-(α1→2)-L-Rhap-(α1→3)-D-GlcpNAc-(β1→

WcnX WcnY WcnZ WcnY WcnZ

D-Fucp₃NAc
α1
↓
4

S O63 $\rightarrow 3$)-D-Galp-(β1→4)-D-Glcp-(α1→4)-D-GalpNAc-(α1→3)-D-GalpNAc-(β1→

WeiD

D-Glcp
β1
↓
2

Ac (~90%)
|
6

S O66 $\rightarrow 2$)-D-Galp-(α1→6)-D-Galp-(α1→4)-D-GalpNAc-(α1→3)-D-GalpNAc-(β1→

WeiD