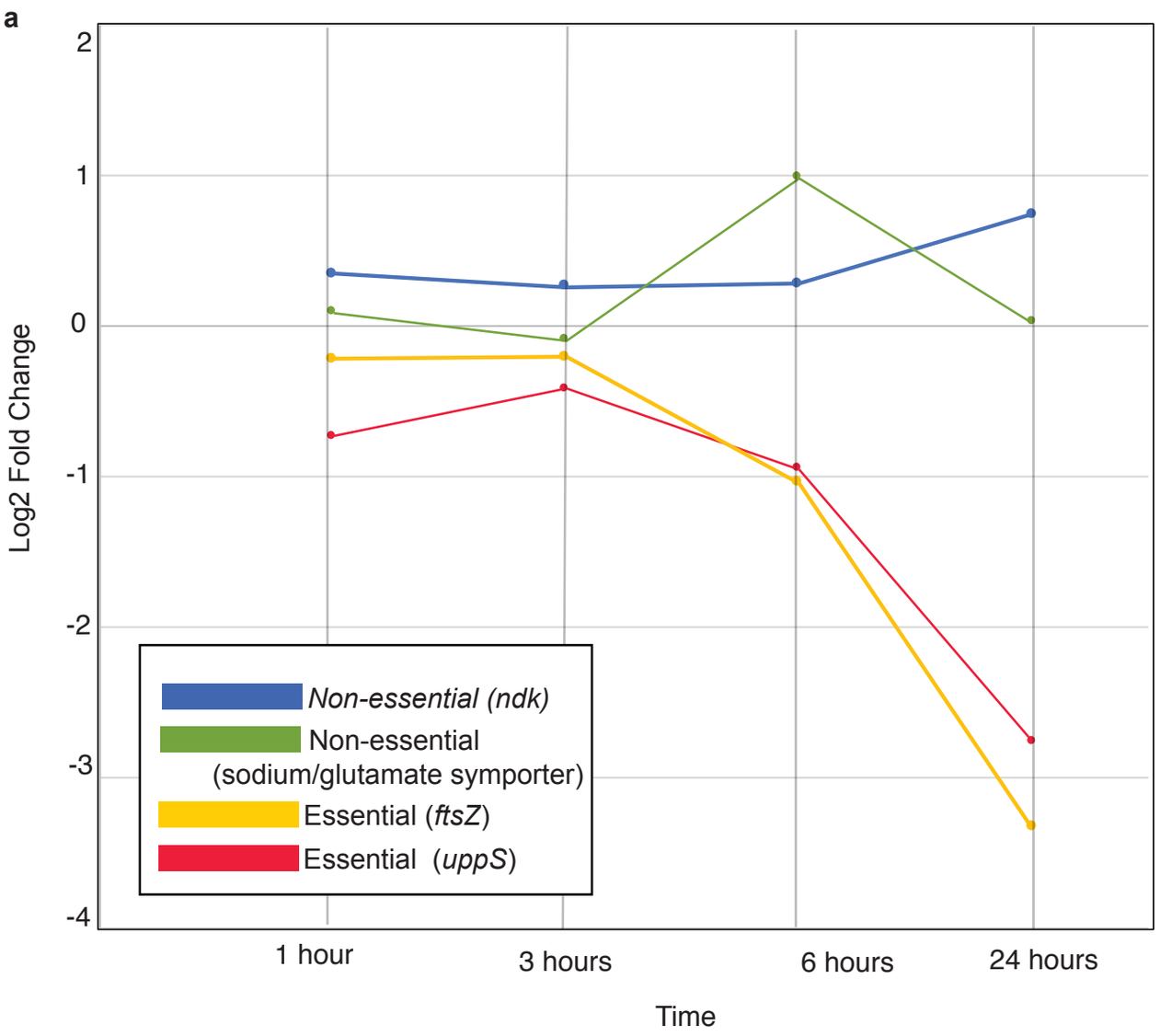
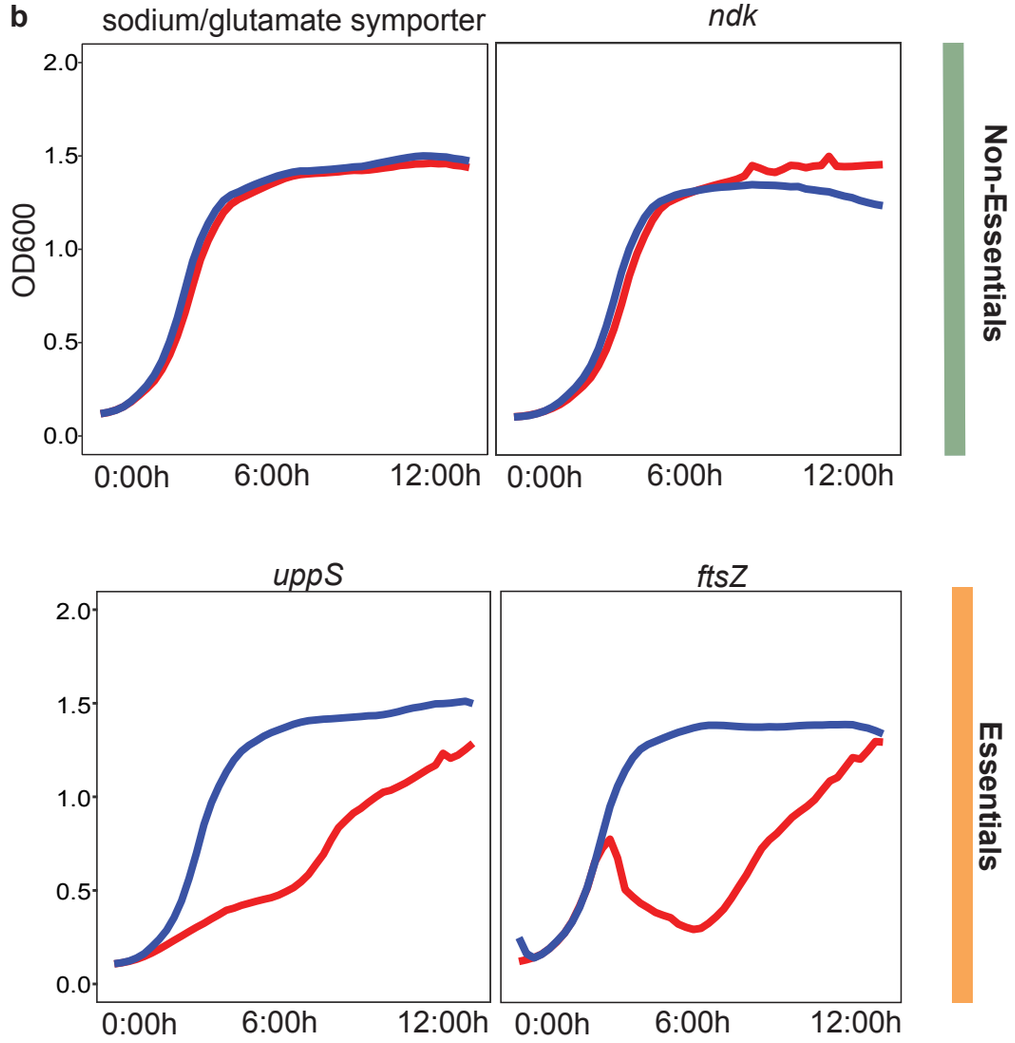
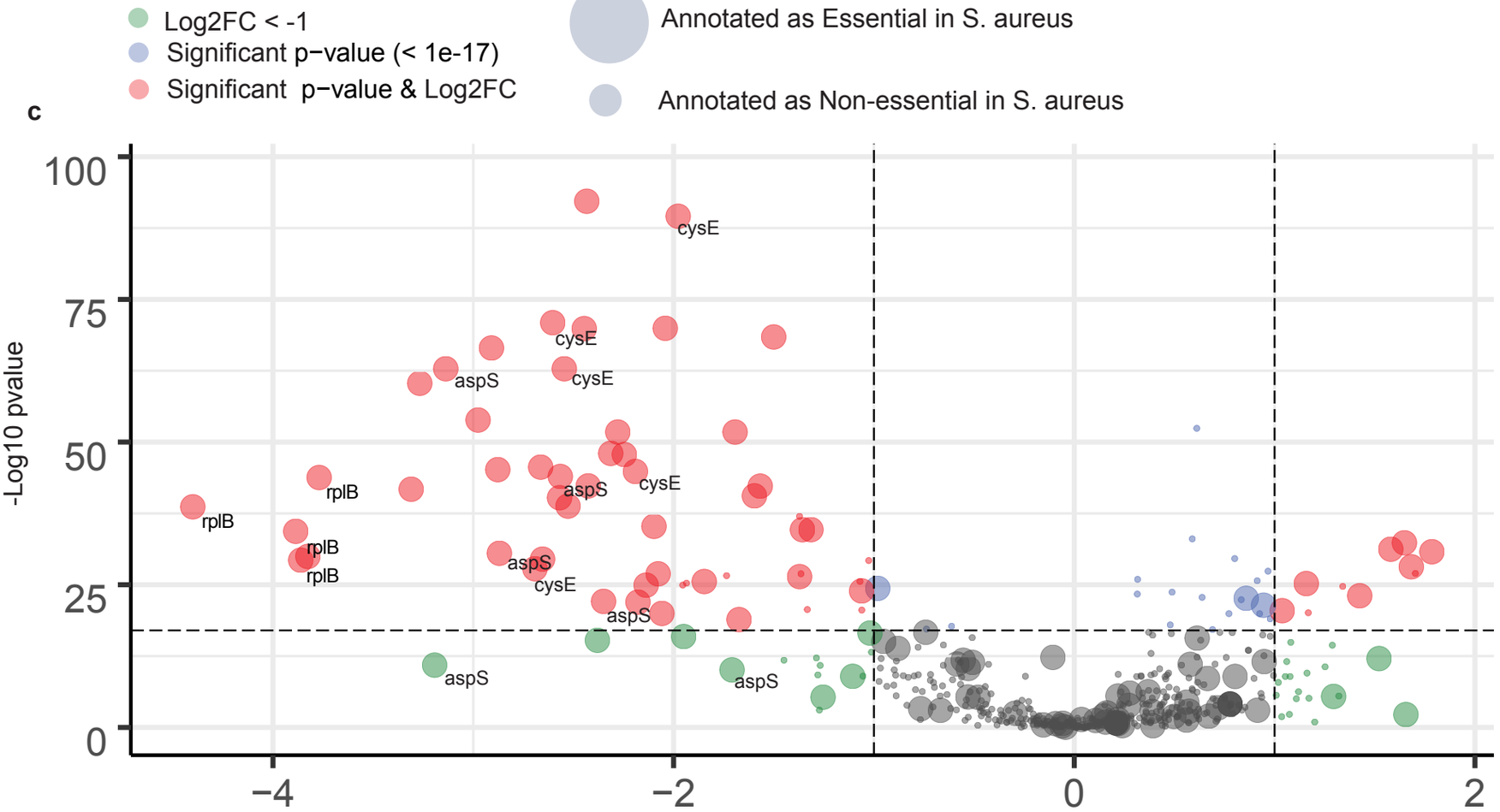
a



b

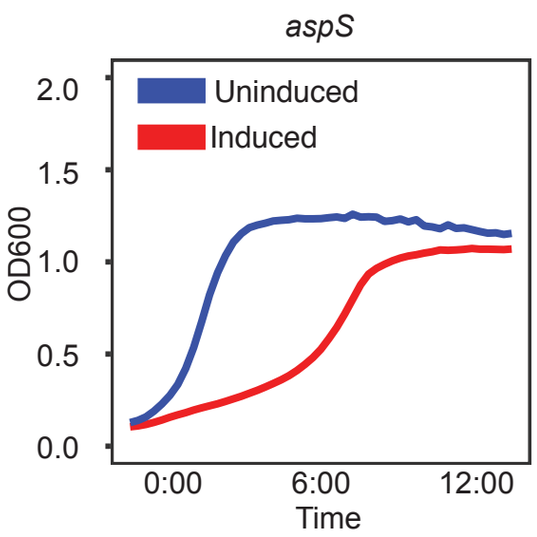


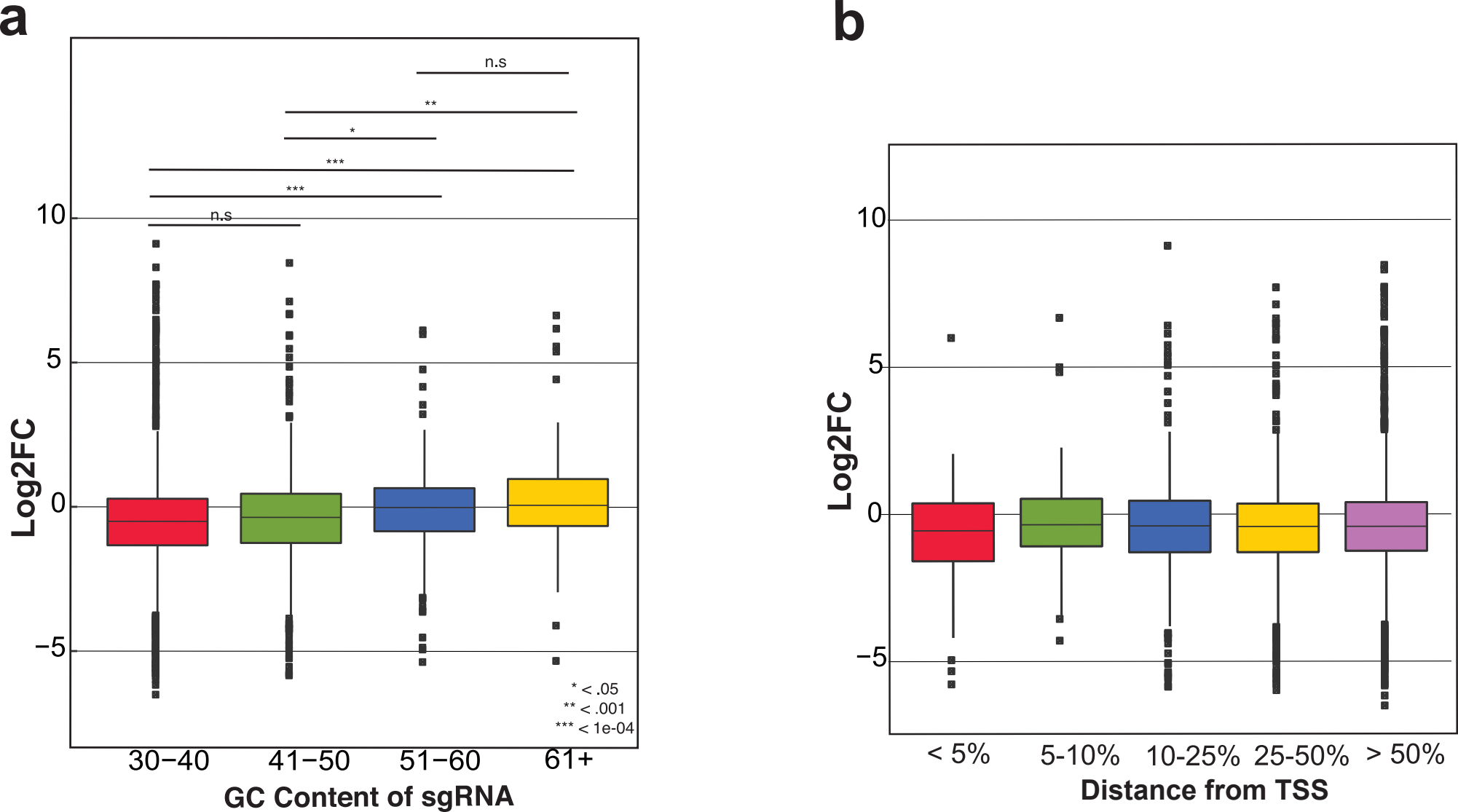


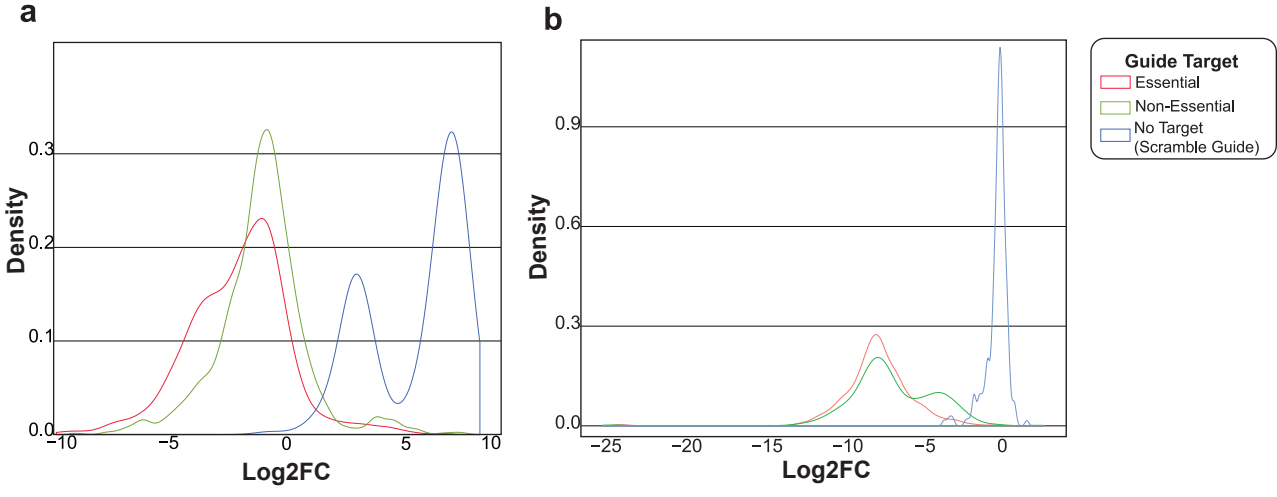
c

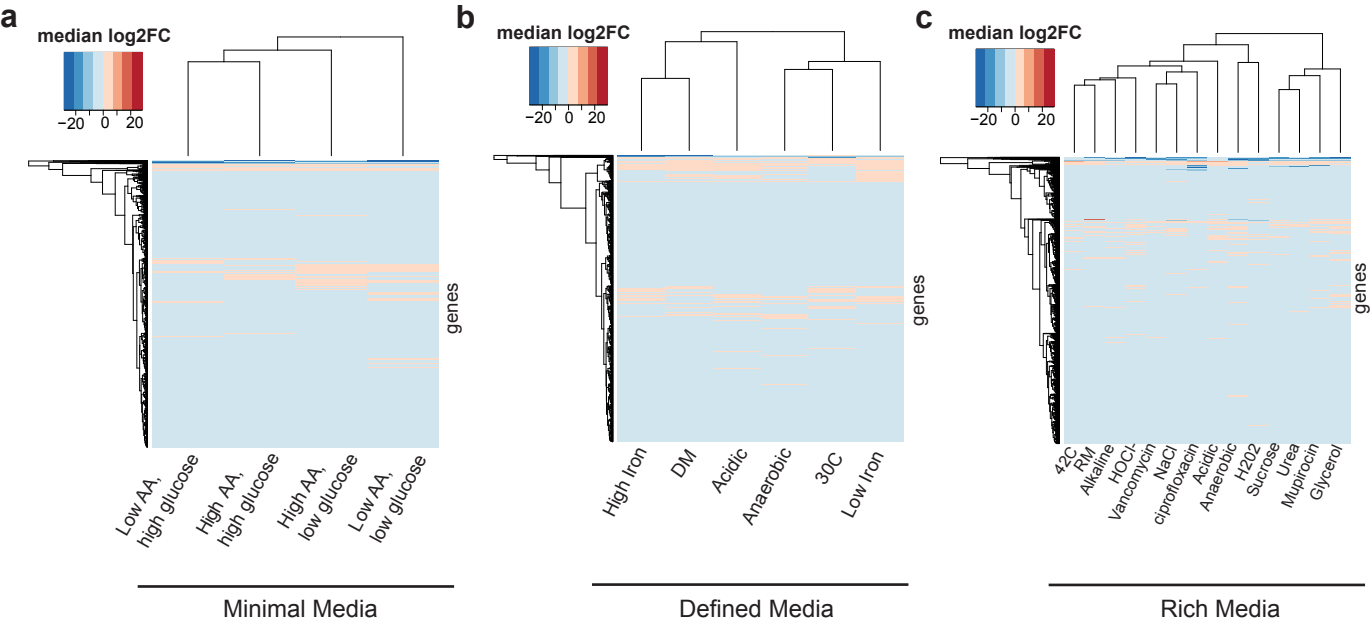
d

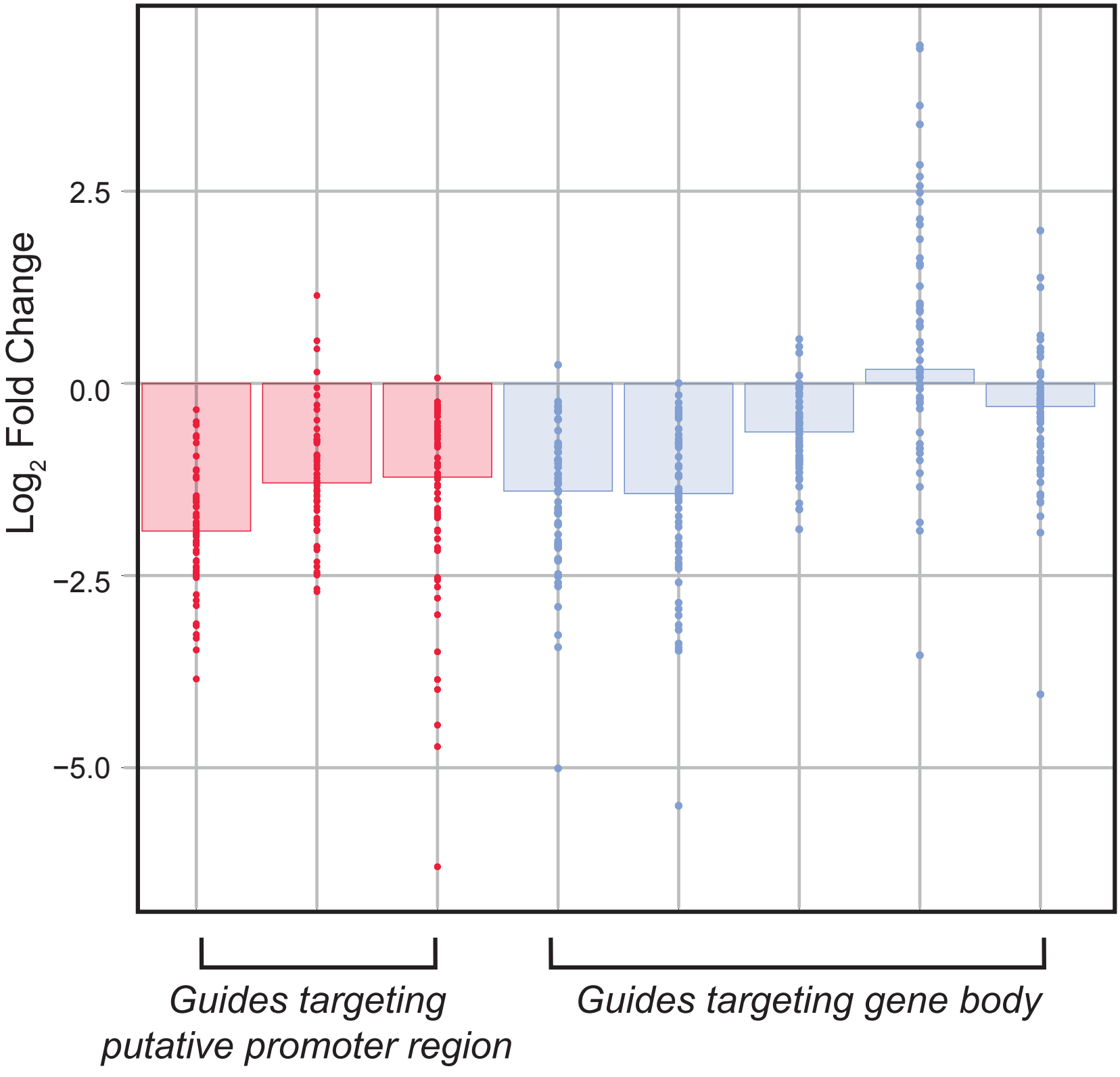
Guide Hits	Gene	Log2FC	padj
	aspS	-3.14	1.43E-63
	aspS	-2.86	13.0E-31
	aspS	-2.56	1.07E-44
	aspS	-2.35	8.21E-23



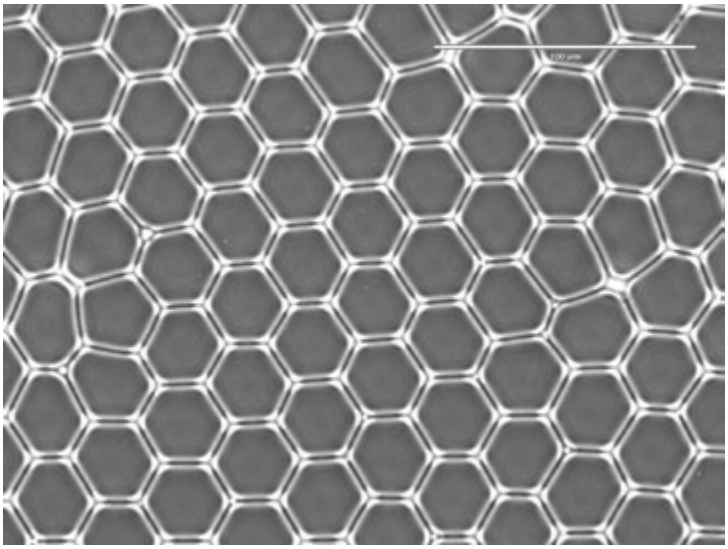

a
n.s
**
*
***
***
n.s
10
5
0
−5
Log2FC
* < .05
** < .001
*** < 1e-04
30−40
41−50
51−60
61+
GC Content of sgRNA
b
10
5
0
−5
Log2FC
< 5%
5-10%
10-25%
25-50%
> 50%
Distance from TSS


a
b
Density
Log2FC
0.0
0.1
0.2
0.3
0.3
0.6
0.9
−10
−5
0
5
10
−25
−20
−15
−10
−5
0
Guide Target
Essential
Non-Essential
No Target
(Scramble Guide)

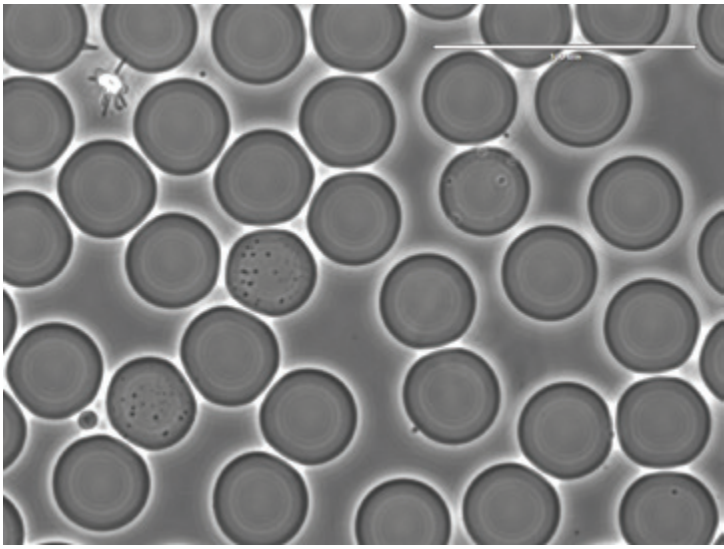

a
median log2FC
−20 0 20
genes
Low AA, high glucose
High AA, high glucose
High AA, low glucose
Low AA, low glucose
Minimal Media
b
median log2FC
−20 0 20
genes
High Iron
DM
Acidic
Anaerobic
30C
Low Iron
Defined Media
c
median log2FC
−20 0 20
genes
42C
RM
Alkaline
HOCl-
Vancomycin
NaCl
ciprofloxacin
Acidic
Anaerobic
H202
Sucrose
Urea
Mupirocin
Glycerol
Rich Media


Log2 Fold Change
2.5
0.0
−2.5
−5.0
Guides targeting
putative promoter region
Guides targeting gene body

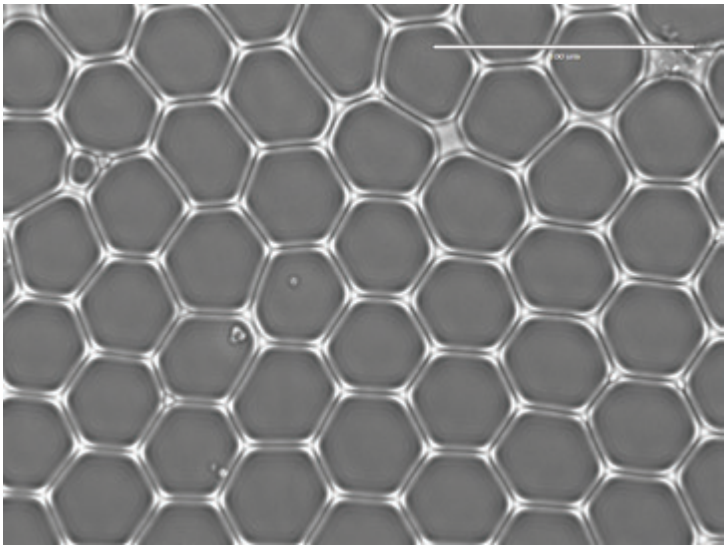
a



b



c



PCR Primer Site (F)
BSAI site
Variable guide region
BSAI site
PCR Primer Site (R)
GCTGTTTTGAATGGTCCCGGTCTCGAAACGGTAATTCGCGATAAGAATGGTTTTTGAGACCGAGCTAGAAATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAACTTGAAAAAGTGG
CGACAAAACTTACCAGGGCCAGAGCTTTGCCATTAAGCGCTATTCTTACCAAAAACTCTGGCTCGATCTTTATCGTTCAATTTTATTCCGATCAGGCAATAGTTGAACTTTTTCACC
Sequence added upstream of guide.
Contains BSAI site (for generation of ss ends)
& PCR primer site (for amplification)
Sequence added downstream of guide.
Contains BSAI site (for generation of ss ends)
& PCR primer site (for amplification)