

Supplementary Materials: A General Small-Angle X-ray Scattering-Based Screening Protocol for Studying Physical Stability of Protein Formulations

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	1	2	3	4	5	6	7	8	9	10	11	12
A	H ₂ O	empty	empty	empty	empty	empty	empty	empty	empty	empty	empty	empty
B	Citrate, pH 5.5	Malonate, pH 5.5	MES, pH 6.0	BIS-TRIS, pH 6.5	Phosphate, pH 7.0	Imidazole, pH 6.2	BIS-TRIS Propane, pH 7.0	MOPS, pH 8.0	TAPSO, pH 7.0	Tricine, pH 7.5	Bicine, pH 8.0	SPG, pH 5.5
C	Citrate, pH 6.0	Malonate, pH 6.0	MES, pH 6.5	BIS-TRIS, pH 7.0	Phosphate, pH 7.5	Imidazole, pH 6.5	BIS-TRIS Propane, pH 7.5	HEPES, pH 7.0	TAPSO, pH 7.5	Tricine, pH 8.0	Bicine, pH 8.5	SPG, pH 6.0
D	Citrate, pH 6.5	Malonate, pH 6.5	MES, pH 6.7	ADA, pH 6.0	Phosphate, pH 8.0	Imidazole, pH 7.0	BIS-TRIS Propane, pH 8.0	HEPES, pH 7.5	TAPSO, pH 8.0	Tricine, pH 8.5	TAPS, pH 7.7	SPG, pH 6.5
E	Citrate, pH 7.0	Malonate, pH 7.0	Maleate, pH 6.0	ADA, pH 6.5	PIPES, pH 6.1	Imidazole, pH 7.5	BIS-TRIS Propane, pH 8.5	HEPES, pH 8.0	TRIS, pH 7.1	Glycylglycine, pH 7.5	TAPS, pH 8.0	SPG, pH 7.0
F	Succinate, pH 5.5	Malonate, pH 7.5	Maleate, pH 6.5	ADA, pH 7.0	PIPES, pH 6.5	Imidazole, pH 7.8	MOPS, pH 6.5	DIPSO, pH 7.0	TRIS, pH 7.5	Glycylglycine, pH 8.0	TAPS, pH 8.5	SPG, pH 7.5
G	Succinate, pH 6.0	Malonate, pH 8.0	Maleate, pH 7.0	Phosphate, pH 6.0	PIPES, pH 7.0	BIS-TRIS Propane, pH 6.3	MOPS, pH 7.0	DIPSO, pH 7.5	TRIS, pH 8.0	Glycylglycine, pH 8.5	AMPD, pH 8.0	SPG, pH 8.0
H	Succinate, pH 6.5	MES, pH 5.5	BIS-TRIS, pH 6.0	Phosphate, pH 6.5	PIPES, pH 7.5	BIS-TRIS Propane, pH 6.5	MOPS, pH 7.5	DIPSO, pH 8.0	TRIS, pH 8.5	Bicine, pH 7.6	AMPD, pH 8.5	SPG, pH 8.5

Table S1. JBScreen Buffers contain common buffer stocks (0.5 M concentration) in the neutral pH range (5.5 - 8.5) in useful 0.5 pH unit increments. SPG buffer (column 12) is produced by mixing Succinic acid:Sodium dihydrogen phosphate:Glycine in the molar ratios 2:7:7. This 'Super Buffer' screens the pH range from 4.0 to 10.0 without changing the chemical composition of the buffer solution.

```
#!/bin/csh
```

rm *.csv

```
rm filenames.txt
```

dos2unix *.dat

```
foreach SAXSfile (`echo *.dat`)
```

```
#foreach SAXSfile (`echo RB1.dat`)
```

```
sed '/^#/d' $SAXSfile > temp
```

```
sed -e 's/,/ /g' temp > $SAXSfile.clean
```

```
awk '{print $2}' $SAXSfile.clean > $SAXSfile.Int.txt
```

```
echo -n $SAXSfile >> filenames.txt
```

```
echo -n " " >> filenames.txt
```

end

```
awk '{print $1}' $SAXSfile.clean > qrange.txt
```

```
paste *.Int.txt > SAXSCombined.txt
```

```
rm temp *.clean *.Int.txt *.clean
```

```
echo ""
```

```
echo "*****"
```

echo " FINISHED "

```
echo "*****"
```

echo ""