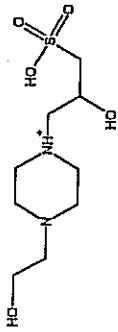
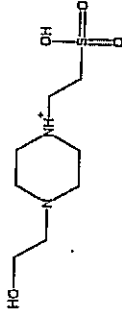


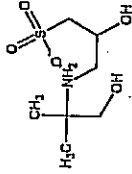
TAPS - pK=8.55



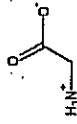
HEPPSO - pK= 7.9



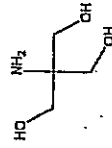
HEPES - pK = 7.55



AMPSO - pK=9.0



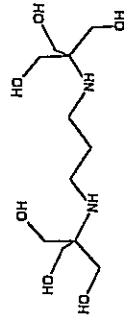
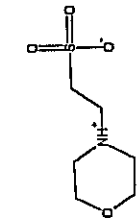
Glycine - pK=9.9



Tris - pK=8.3

Bis-Tris Propane  
1,3-Bis[tris(hydroxymethyl)]

MES  
2-(N-morpholino) ethanesulfonic acid  
pK at 6.15



TECHNICAL INFORMATION

Protein Conversion Data

1 kb of DNA = 333 amino acids of coding capacity  
= 37,000 Daltons  
270 bp DNA = 10,000 Daltons  
1.35 kb DNA = 50,000 Daltons  
2.70 kb DNA = 100,000 Daltons  
Average molecular weight of an amino acid = 120 Daltons

Mass of Protein to Moles of Protein

MW (daltons)	1 μg	1 nmol
10,000	100 pmol; 6 x 10 <sup>13</sup> molecules	10 μg
50,000	20 pmol; 1.2 x 10 <sup>13</sup> molecules	50 μg
100,000	10 pmol; 6.0 x 10 <sup>12</sup> molecules	100 μg
150,000	6.7 pmol; 4.0 x 10 <sup>12</sup> molecules	150 μg

Concentration of Protein to Absorbance of Protein

Protein	A <sub>280</sub> for 1 mg/ml
IgG	1.35
IgM	1.20
IgA	1.30
Protein A	0.17
Avidin	1.50
Streptavidin	3.40
Bovine Serum Albumin (67 kD)	0.70

*Handwritten notes:*  
1 μmol = (6.6 x 10<sup>13</sup> ng) (A base) - cds DNA  
1 μmol = (3.3 x 10<sup>13</sup> ng) (A base) - ss DNA  
Codon Dictionary  
Mg/ml = A<sub>260</sub> x dilution x 1000 - 6  
1 μmol = 6.6 x 10<sup>13</sup> ng (A base)  
1 mg = 1 x 10<sup>3</sup> μmol / 91 μmol = 33 μmol  
1 mM = 1 x 10<sup>3</sup> μmol / ml  
ng = 1 μmol x 0.33 x N  
C = A<sub>260</sub> x 0.33 x N

10-D = 5 μg/ml (66)

Codon Dictionary  
10-D = 32 μg/ml  
Cis

Terminal base	U	C	A	G
U	Phe	Ser	Tyr	Cys
C	Phe	Ser	Tyr	Cys
A	Leu	Ser	STOP	STOP
G	Leu	Ser	STOP	Trp
	Leu	Pro	His	Arg
	Leu	Pro	His	Arg
	Leu	Pro	Gln	Arg
	Leu	Pro	Gln	Arg
A	Ile	Thr	Asn	Ser
	Ile	Thr	Asn	Ser
	Ile	Thr	Lys	Arg
	Met	Thr	Lys	Arg
G	Val	Ala	Asp	Gly
	Val	Ala	Asp	Gly
	Val	Ala	Glu	Gly
	Val	Ala	Glu	Gly

a: Codes for Met if in the initiator position