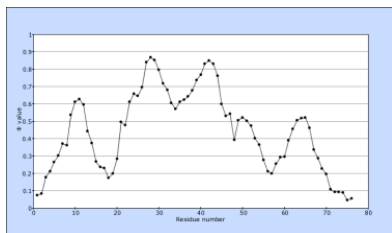
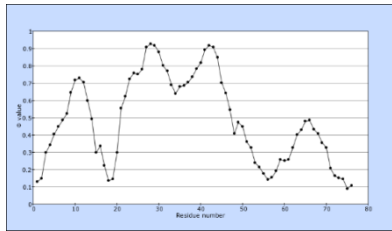
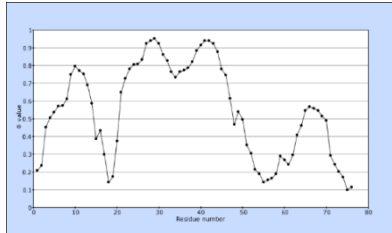
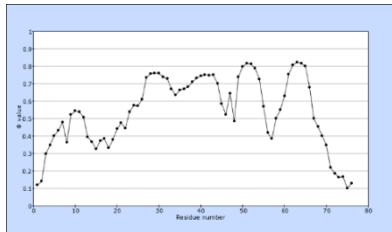
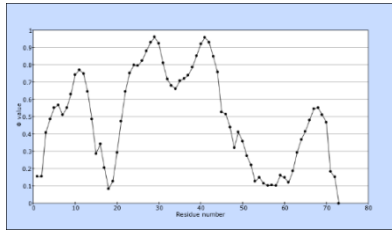
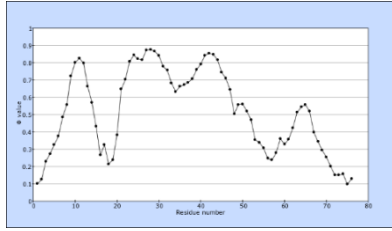
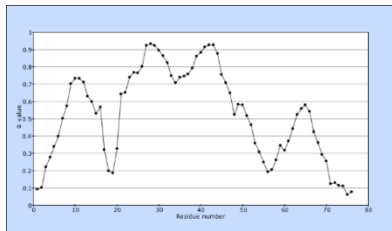
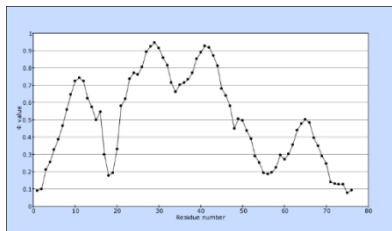
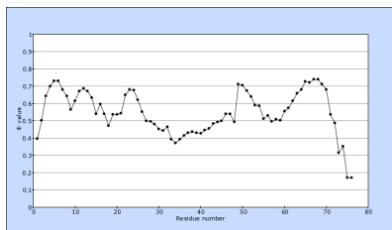
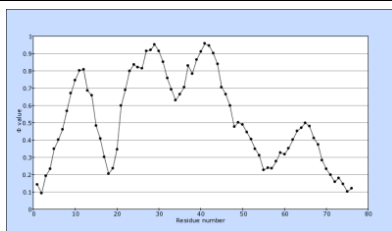
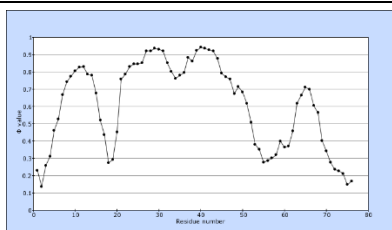
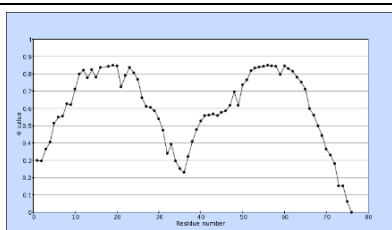
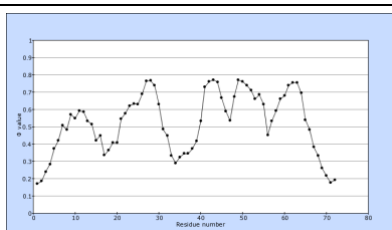
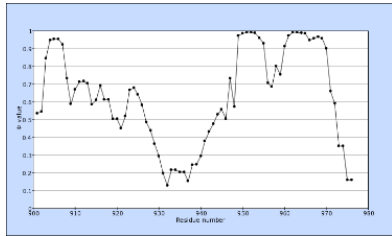
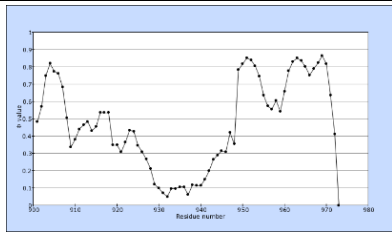
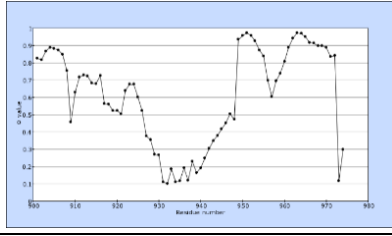
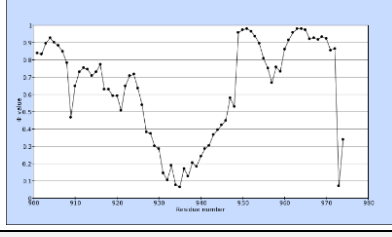
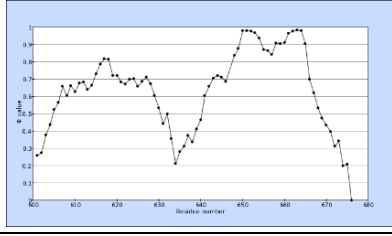
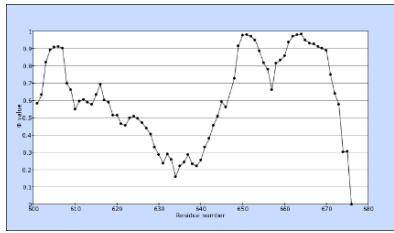
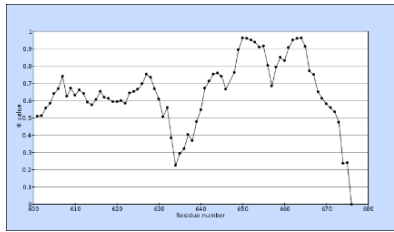
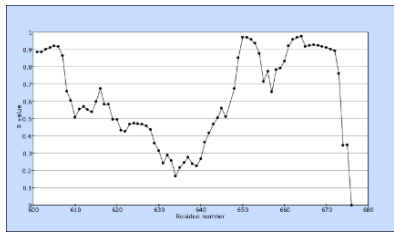
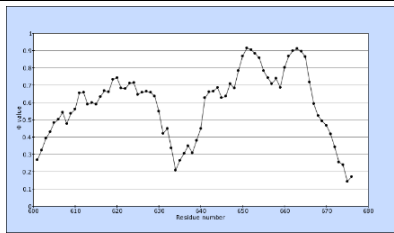
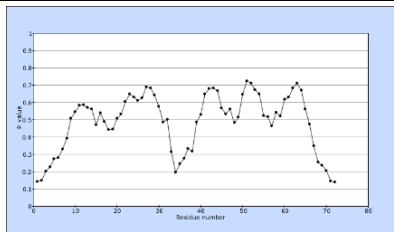
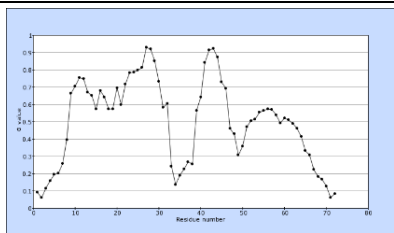
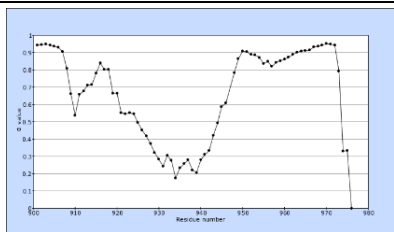


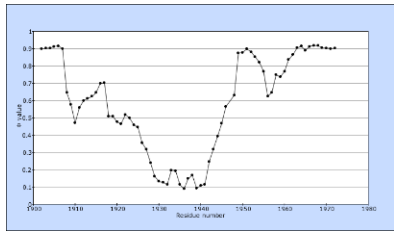
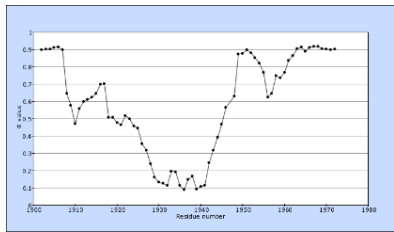
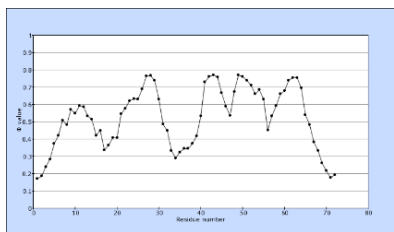
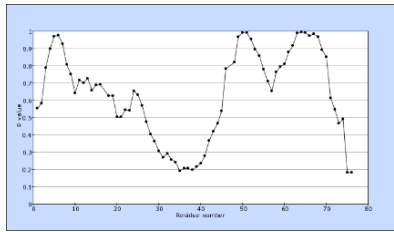
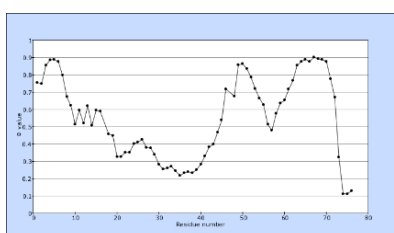
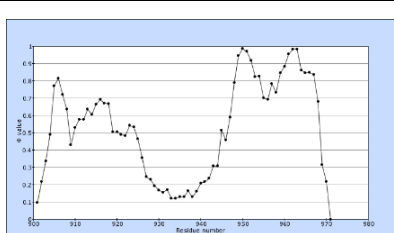
Table. Calculated energy characteristics of tRNA molecules by Dokholyan's method

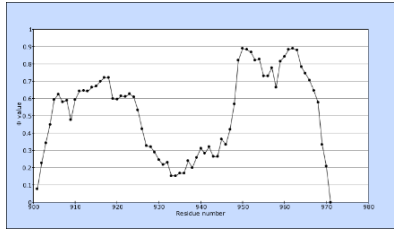
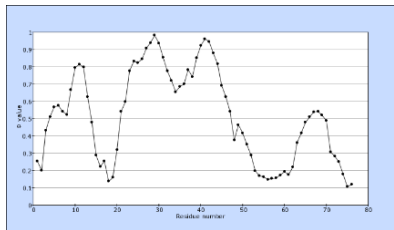
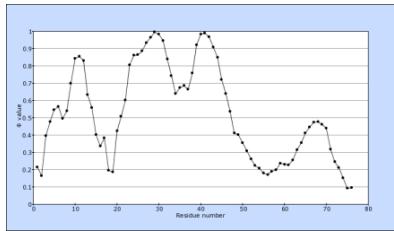
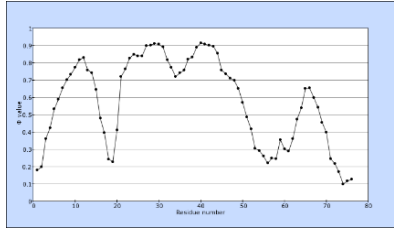
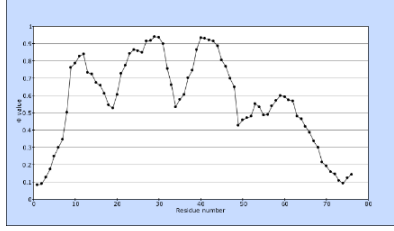
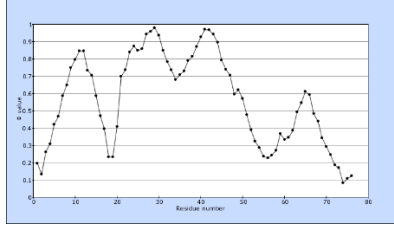
PDB code, Name and origin	Profile of Φ -values	Energy components (kcal/mol)				Number of interactions		
		Complete energy of molecule	Hydrogen bonds	Stacking interactions	Hydrophobic interactions	Number of hydrogen bonds	Number of stacking interactions	Number of hydrophobic interactions
Alone tRNA molecule								
1EHZ (1.93 Å) Yeast tRNA ^{Phe}		-127.2	-31.4	-59.4	-36.4	22	99	90
1TN2_A Yeast tRNA ^{Phe}		-121.85	-25.05	-58.80	-38.00	21	98	94
1TRA_A Yeast tRNA ^{Phe}		-122.69	-24.89	-57.00	-40.80	23	95	101
1EVV_A Yeast tRNA ^{Phe}		-114.53	-19.52	-58.20	-36.80	22	97	91
3LOU_A (3 Å) E. Coli tRNA ^{Phe}		-116.10	-29.90	-58.20	-28.00	22	97	69
4TNA_A Yeast tRNA ^{Phe}		-119.35	-22.15	-58.80	-38.40	19	98	95

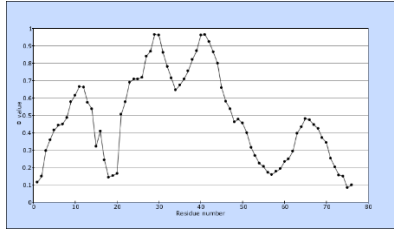
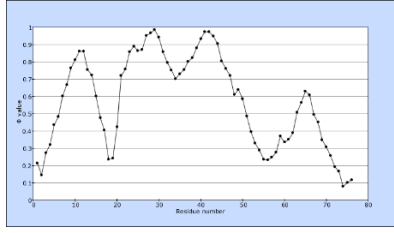
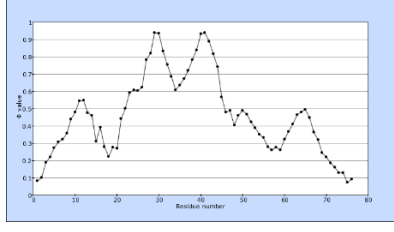
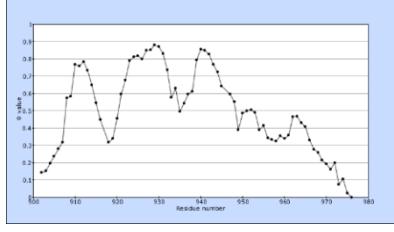
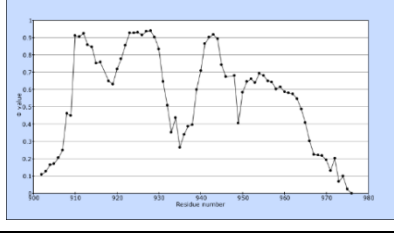
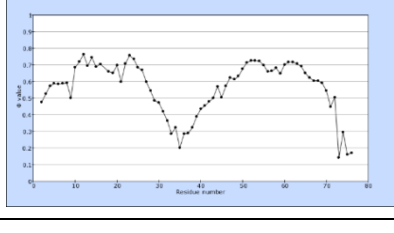
PDB code, Name and origin	Profile of Φ -values	Energy components (kcal/mol)				Number of interactions		
		Complete energy of molecule	Hydrogen bonds	Stacking interactions	Hydrophobic interactions	Number of hydrogen bonds	Number of stacking interactions	Number of hydrophobic interactions
4TRA_A Yeast tRNA ^{Phe}		-112.45	-15.25	-58.80	-38.40	20	98	95
6TNA_A Yeast tRNA ^{Phe}		-114.01	-17.01	-61.80	-35.20	20	103	87
1FIR (3.3 Å) Bovine tRNA ^{Lys}		-116.62	-21.82	-60.0	-34.8	20	100	86
3CW5 (3.1 Å) <i>E. Coli</i> tRNA ^{Met}		-116.75	-17.75	-67.8	-31.2	19	113	77
3CW6_A <i>E. Coli</i> tRNA ^{Met}		-119.10	-19.90	-66.00	-33.20	17	110	82
1YFG_A Yeast tRNA ^{Met}		-125.35	-29.95	-53.40	-42.00	22	89	104
3TRA (3 Å) Yeast tRNA ^{Asp}		-116.43	-25.43	-57.0	-34.0	23	95	84

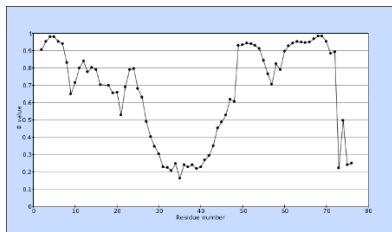
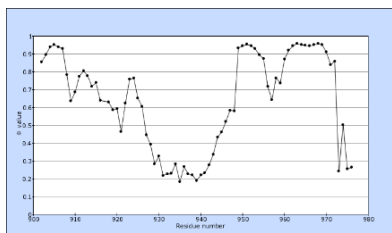
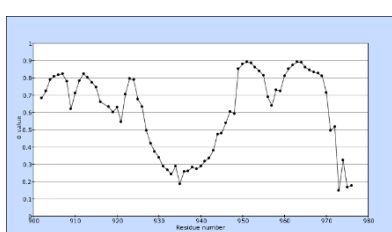
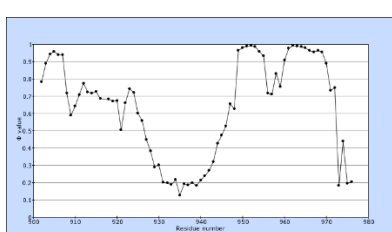
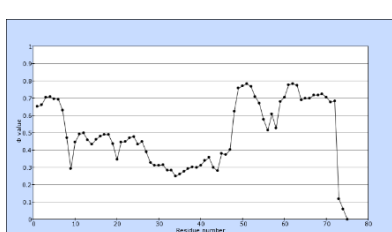
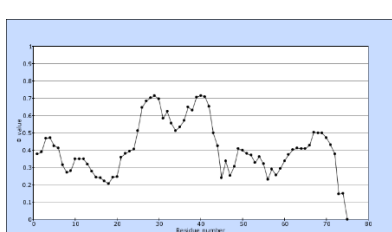
PDB code, Name and origin	Profile of Φ -values	Energy components (kcal/mol)				Number of interactions		
		Complete energy of molecule	Hydrogen bonds	Stacking interactions	Hydrophobic interactions	Number of hydrogen bonds	Number of stacking interactions	Number of hydrophobic interactions
tRNA/PROTEIN complex								
Arg								
1F7U_B YEAST tRNA ^{Arg}		-115.55	-30.35	-58.80	-26.40	24	98	65
1F7V_B YEAST tRNA ^{Arg}		-106.53	-18.93	-58.80	-28.80	23	98	71
2ZUE_B PYROCOCCUS tRNA ^{Arg}		-113.45	-27.65	-59.40	-26.40	19	99	65
2ZUF_B PYROCOCCUS tRNA ^{Arg}		-113.15	-26.35	-58.80	-28.00	19	98	69
Asp								
1ASY_R YEAST SYNTH tRNA ^{Asp}		-118.80	-28.40	-55.20	-35.20	25	92	87

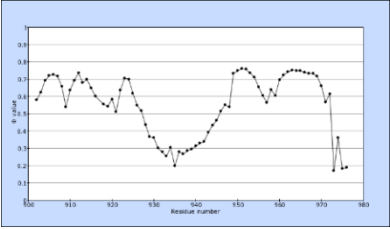
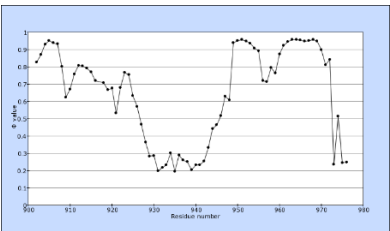
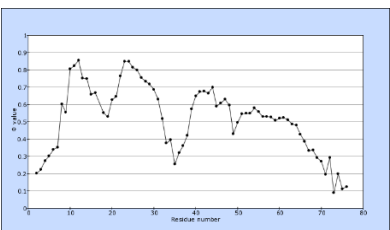
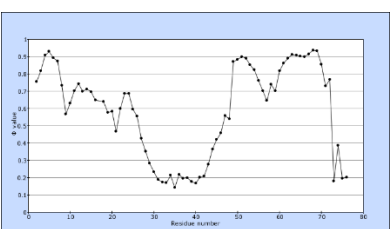
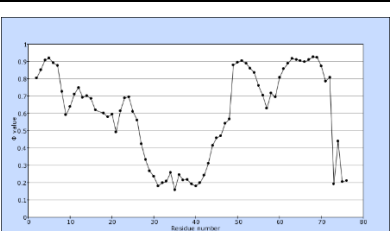
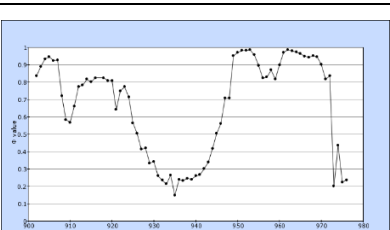
PDB code, Name and origin	Profile of Φ -values	Energy components (kcal/mol)				Number of interactions		
		Complete energy of molecule	Hydrogen bonds	Stacking interactions	Hydrophobic interactions	Number of hydrogen bonds	Number of stacking interactions	Number of hydrophobic interactions
1ASY_S YEAST SYNTH tRNA ^{Asp}		-121.15	-28.15	-58.20	-34.80	23	97	86
1ASZ_R YEAST SYNTH tRNA ^{Asp}		-120.35	-25.95	-60.00	-34.40	21	100	85
1ASZ_S YEAST SYNTH tRNA ^{Asp}		-120.45	-28.65	-60.60	-31.20	24	101	77
1C0A_B E. Coli tRNA ^{Asp}		-114.00	-21.20	-61.20	-31.60	20	102	78
1EFW_C E. Coli tRNA ^{Asp}		-108.94	-19.74	-52.80	-36.40	19	88	90
1EFW_D E. Coli tRNA ^{Asp}		-111.75	-21.15	-55.80	-34.80	18	93	86
1IL2_C YEAST tRNA ^{Asp}		-113.89	-21.69	-60.60	-31.60	21	101	78

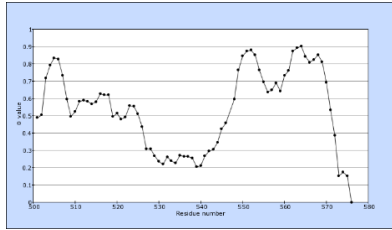
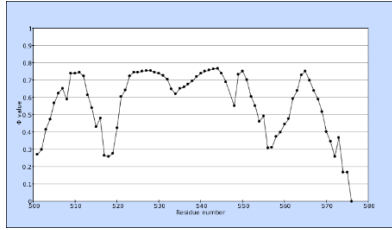
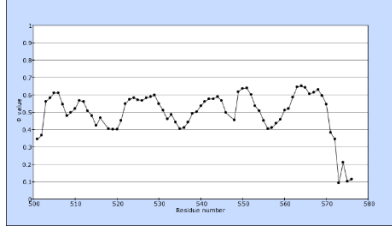
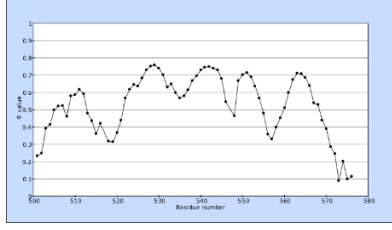
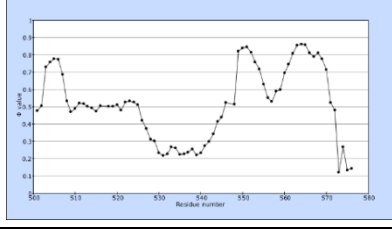
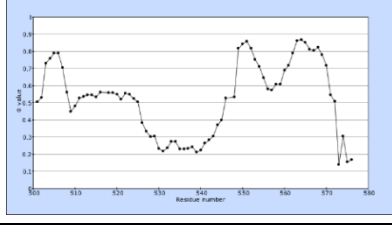
PDB code, Name and origin	Profile of Φ -values	Energy components (kcal/mol)				Number of interactions		
		Complete energy of molecule	Hydrogen bonds	Stacking interactions	Hydrophobic interactions	Number of hydrogen bonds	Number of stacking interactions	Number of hydrophobic interactions
1IL2_D YEAST tRNA ^{Asp}		-110.95	-23.75	-56.40	-30.80	24	94	76
2TRA_A YEAST, A-form CRYSTALL tRNA ^{Asp}		-127.53	-31.12	-66.00	-30.40	23	110	75
3TRA_A YEAST, B-form CRYSTALL tRNA ^{Asp}		-116.42	-25.43	-57.00	-34.00	23	95	84
Cys								
1B23_R E. Coli tRNA ^{Cys}		-103.78	-17.77	-52.80	-33.20	15	88	82
1U0B_A Synth tRNA ^{Cys}		-108.80	-22.40	-51.60	-34.80	18	86	86
2DU3_D Synth tRNA ^{Cys}		-107.55	-30.35	-48.00	-29.20	21	80	72

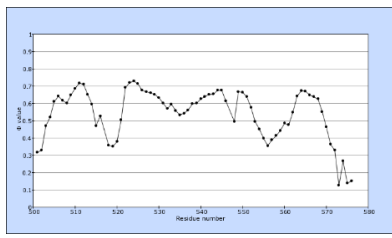
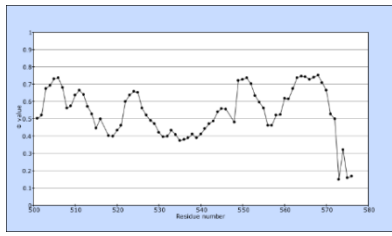
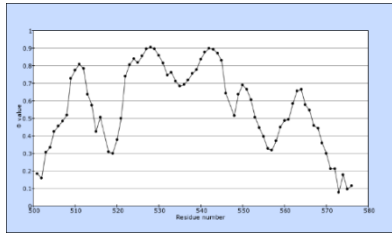
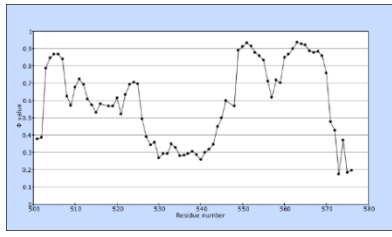
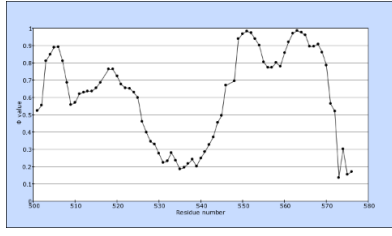
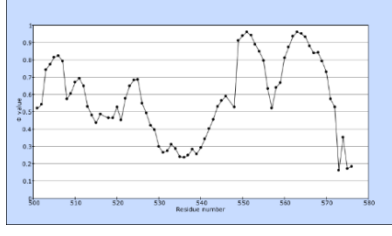
PDB code, Name and origin	Profile of Φ -values	Energy components (kcal/mol)				Number of interactions		
		Complete energy of molecule	Hydrogen bonds	Stacking interactions	Hydrophobic interactions	Number of hydrogen bonds	Number of stacking interactions	Number of hydrophobic interactions
2DU4_C Synth tRNA ^{Cys}		-101.66	-24.26	-48.60	-28.80	18	81	71
fMet								
2FMT_C Synth tRNA ^{fMet}		-114.90	-22.30	-60.60	-32.00	16	101	79
2FMT_D Synth tRNA ^{fMet}		-110.45	-19.65	-60.00	-30.80	14	100	76
2J00_V E. Coli tRNA ^{fMet}		-118.75	-28.15	-55.80	-34.80	17	93	86
2J02_V E. Coli tRNA ^{fMet}		-105.05	-13.65	-55.80	-35.60	12	93	88
3F1E_Y E. Coli tRNA ^{fMet}		-118.25	-26.25	-60.00	-32.00	18	100	79

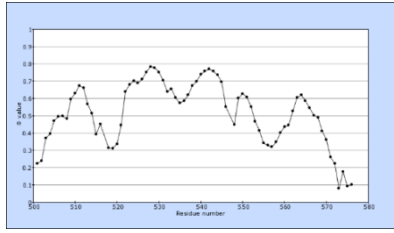
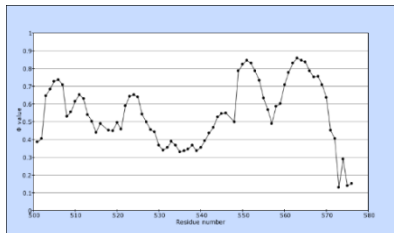
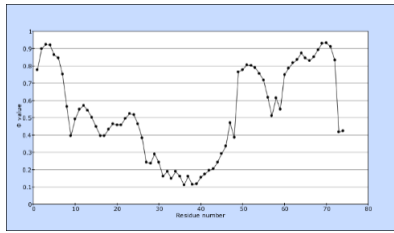
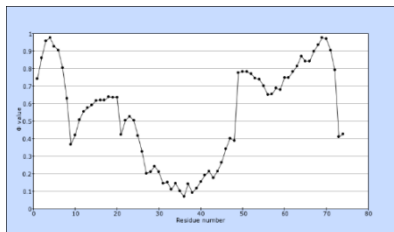
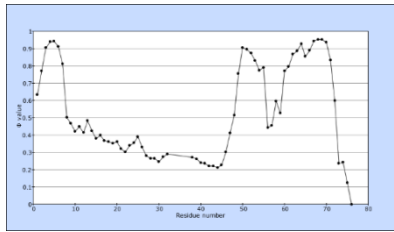
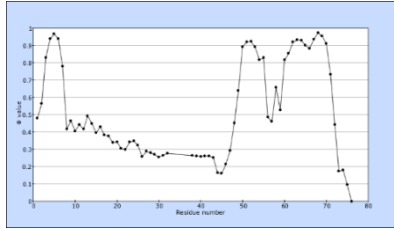
PDB code, Name and origin	Profile of Φ -values	Energy components (kcal/mol)				Number of interactions		
		Complete energy of molecule	Hydrogen bonds	Stacking interactions	Hydrophobic interactions	Number of hydrogen bonds	Number of stacking interactions	Number of hydrophobic interactions
3F1E_Z E. Coli tRNA ^{Met}		-111.96	-19.76	-54.60	-37.60	15	91	93
3F1G_Y E. Coli tRNA ^{Met}		-117.65	-25.65	-60.00	-32.00	18	100	79
3F1G_Z E. Coli tRNA ^{Met}		-113.96	-22.16	-54.60	-37.20	16	91	92
Gln								
1EUY_B Synth tRNA ^{Gln}		-100.80	-13.20	-58.80	-28.80	14	98	71
1EXD_B Synth tRNA ^{Gln}		-105.30	-16.70	-59.40	-29.20	15	99	72
1GTR_B Synth tRNA ^{Gln}		-110.75	-24.75	-56.40	-29.60	21	94	73

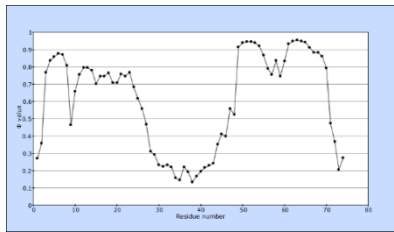
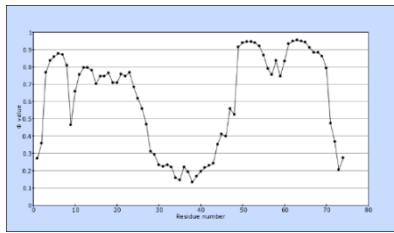
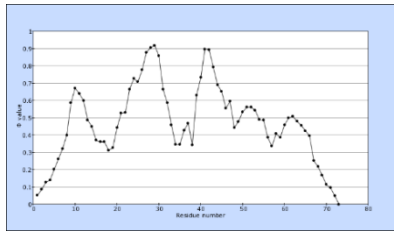
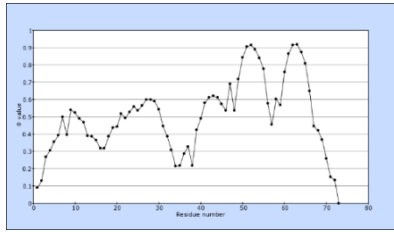
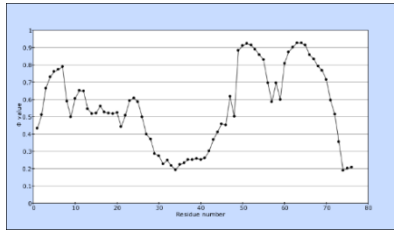
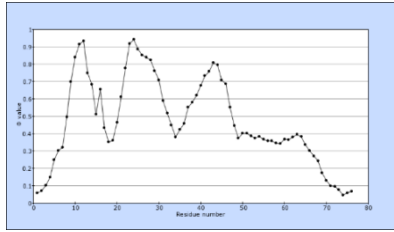
PDB code, Name and origin	Profile of Φ -values	Energy components (kcal/mol)				Number of interactions		
		Complete energy of molecule	Hydrogen bonds	Stacking interactions	Hydrophobic interactions	Number of hydrogen bonds	Number of stacking interactions	Number of hydrophobic interactions
1GTS_B E. Coli tRNA ^{Gln}		-108.70	-20.90	-57.00	-30.80	18	95	76
1ZJW_B Synth tRNA ^{Gln}		-108.10	-24.70	-53.40	-30.00	17	89	74
2RD2_B Synth tRNA ^{Gln}		-106.00	-19.20	-57.60	-29.20	16	96	72
2RE8_B Synth tRNA ^{Gln}		-108.15	-21.95	-55.80	-30.40	18	93	75
3KNH_W E. Coli tRNA ^{Gln}		-106.05	-17.65	-52.80	-35.60	15	88	88
3KNH_Y E. Coli tRNA ^{Gln}		-103.30	-12.10	-49.20	-42.00	10	82	104

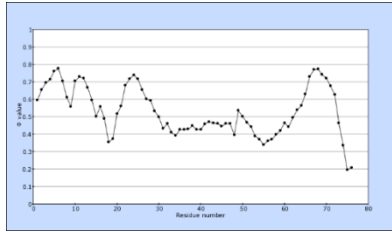
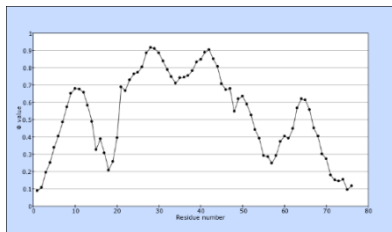
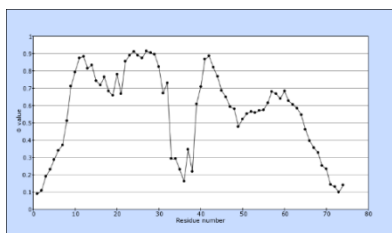
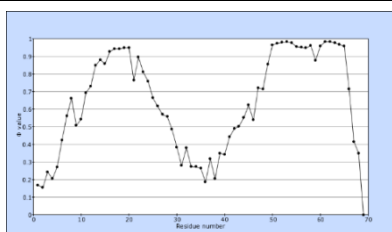
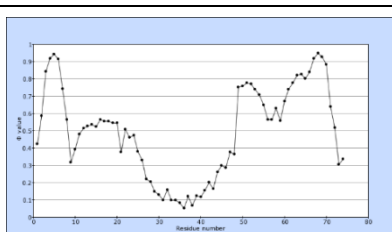
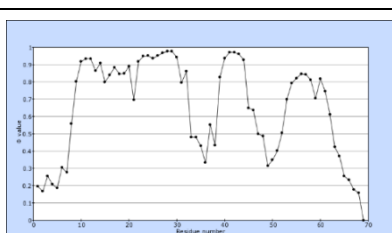
PDB code, Name and origin	Profile of Φ -values	Energy components (kcal/mol)				Number of interactions		
		Complete energy of molecule	Hydrogen bonds	Stacking interactions	Hydrophobic interactions	Number of hydrogen bonds	Number of stacking interactions	Number of hydrophobic interactions
Gln2								
100B_B Synth tRNA ^{Gln2}		-102.00	-10.40	-58.80	-32.80	13	98	81
100C_B Synth tRNA ^{Gln2}		-100.65	-16.65	-52.80	-31.20	15	88	77
1QRS_B E. Coli tRNA ^{Gln2}		-105.85	-18.05	-57.00	-30.80	18	95	76
1QRT_B E. Coli tRNA ^{Gln2}		-102.00	-15.80	-54.60	-31.60	15	91	78
1QRU_B E. Coli tRNA ^{Gln2}		-109.70	-20.70	-58.20	-30.80	15	97	76
1QTQ_B E. Coli tRNA ^{Gln2}		-115.15	-26.75	-55.20	-33.20	18	92	82

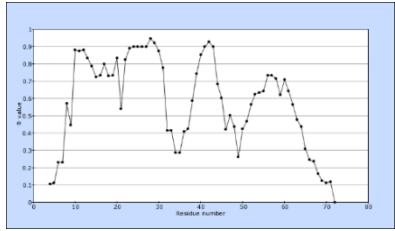
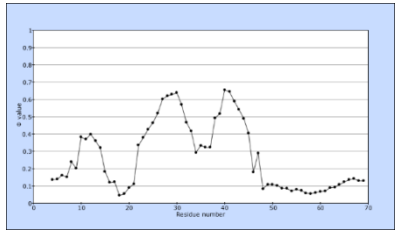
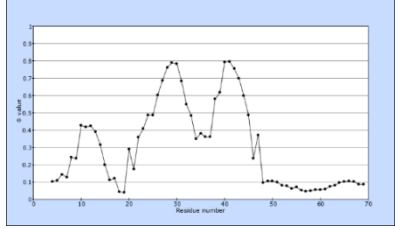
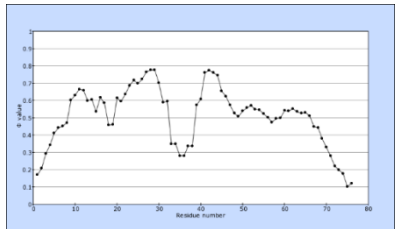
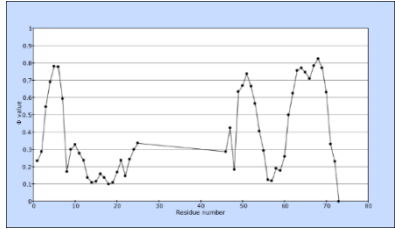
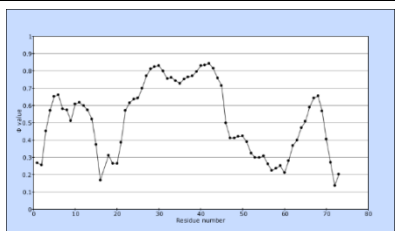
PDB code, Name and origin	Profile of Φ -values	Energy components (kcal/mol)				Number of interactions		
		Complete energy of molecule	Hydrogen bonds	Stacking interactions	Hydrophobic interactions	Number of hydrogen bonds	Number of stacking interactions	Number of hydrophobic interactions
Glu								
1G59_B Synth tRNA ^{Glu}		www	-28.50	-64.20	-34.40	21	107	85
1G59_D Synth tRNA ^{Glu}		-125.92	-27.12	-66.00	-32.80	21	110	81
1N77_C Thermus Thermophilus tRNA ^{Glu}		-128.15	-31.55	-64.20	-32.40	20	107	80
1N77_D Thermus Thermophilus tRNA ^{Glu}		-125.65	-29.45	-63.00	-33.20	21	105	82
1N78_C Thermus Thermophilus tRNA ^{Glu}		-130.50	-31.70	-68.40	-30.40	22	114	75
1N78_D Thermus Thermophilus tRNA ^{Glu}		-128.85	-30.85	-67.20	-30.80	21	112	76

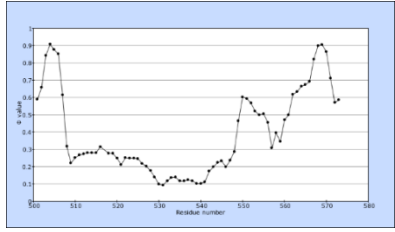
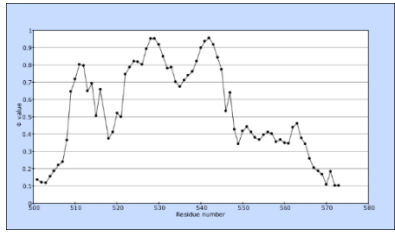
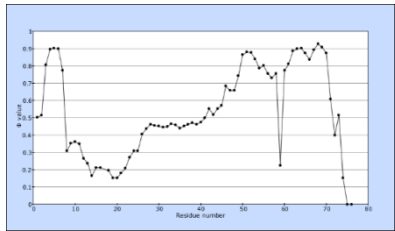
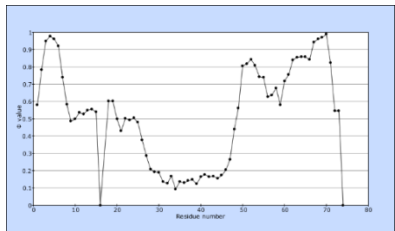
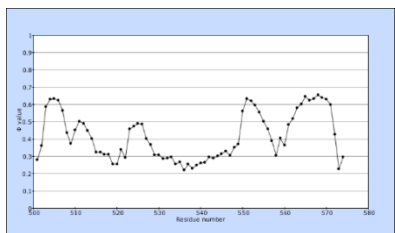
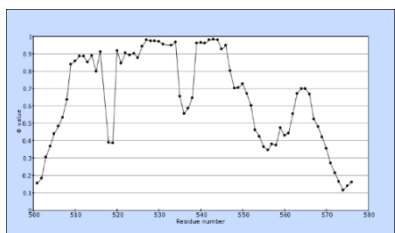
PDB code, Name and origin	Profile of Φ -values	Energy components (kcal/mol)				Number of interactions		
		Complete energy of molecule	Hydrogen bonds	Stacking interactions	Hydrophobic interactions	Number of hydrogen bonds	Number of stacking interactions	Number of hydrophobic interactions
2CV0_C Synth tRNA ^{Glu}		-125.25	-27.65	-64.80	-32.80	19	108	81
2CV0_D Synth tRNA ^{Glu}		-126.33	-27.32	-65.40	-33.60	20	109	83
2CV1_C Synth tRNA ^{Glu}		-125.10	-29.50	-64.80	-30.80	18	108	76
2CV1_D Synth tRNA ^{Glu}		-125.15	-27.75	-65.40	-32.00	19	109	79
2CV2_C Synth tRNA ^{Glu}		-134.15	-37.75	-64.80	-31.60	24	108	78
2CV2_D Synth tRNA ^{Glu}		-131.90	-35.90	-64.80	-31.20	22	108	77

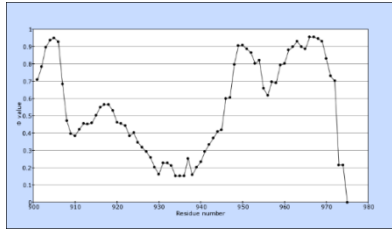
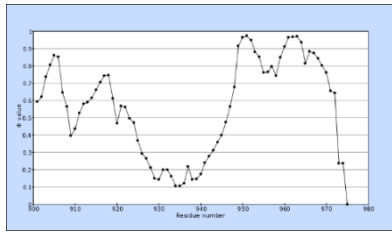
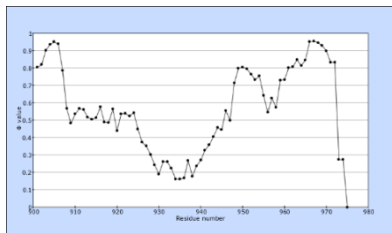
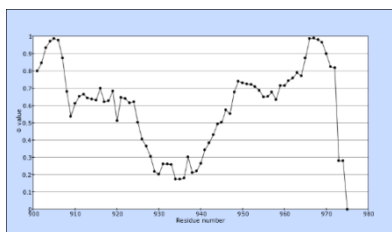
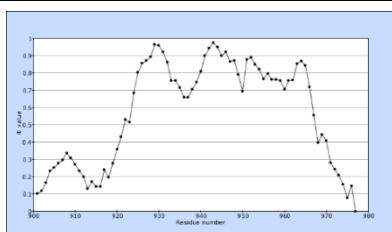
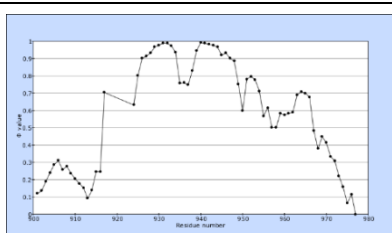
PDB code, Name and origin	Profile of Φ -values	Energy components (kcal/mol)				Number of interactions		
		Complete energy of molecule	Hydrogen bonds	Stacking interactions	Hydrophobic interactions	Number of hydrogen bonds	Number of stacking interactions	Number of hydrophobic interactions
2DXI_C Synth tRNA ^{Glu}		-127.90	-30.30	-67.20	-30.40	21	112	75
2DXI_D Synth tRNA ^{Glu}		-127.55	-30.15	-67.80	-29.60	21	113	73
Ile								
1FFY_T E. Coli tRNA ^{Ile}		-112.49	-26.69	-47.40	-38.40	19	79	95
1QU3_T STAPHYLO- COCCUS AUREUS tRNA ^{Ile}		-112.19	-21.39	-58.80	-32.00	16	98	79
Leu								
2BTE_B Synth tRNA ^{Leu}		-117.15	-36.75	-50.40	-30.00	24	84	74
2BTE_E Synth tRNA ^{Leu}		-109.38	-28.57	-49.20	-31.60	21	82	78

PDB code, Name and origin	Profile of Φ -values	Energy components (kcal/mol)				Number of interactions		
		Complete energy of molecule	Hydrogen bonds	Stacking interactions	Hydrophobic interactions	Number of hydrogen bonds	Number of stacking interactions	Number of hydrophobic interactions
Met								
2CSX_C Synth tRNA ^{Met}		-103.00	-18.20	-56.40	-28.40	15	94	70
2CSX_D Synth tRNA ^{Met}		-101.54	-15.34	-54.60	-31.60	15	91	78
2CT8_C Synth tRNA ^{Met}		-95.08	-10.88	-51.00	-33.20	10	85	82
2CT8_D Synth tRNA ^{Met}		-110.95	-21.35	-58.80	-30.80	20	98	76
3HUW_W E. Coli tRNA ^{Met}		-113.30	-19.50	-57.00	-36.80	16	95	91
3KNH_X E. Coli tRNA ^{Met}		-100.47	-13.88	-53.40	-33.20	12	89	82

PDB code, Name and origin	Profile of Φ -values	Energy components (kcal/mol)				Number of interactions		
		Complete energy of molecule	Hydrogen bonds	Stacking interactions	Hydrophobic interactions	Number of hydrogen bonds	Number of stacking interactions	Number of hydrophobic interactions
Phe								
2J00_W E. Coli tRNA ^{Phe}		-112.25	-14.85	-64.20	-33.20	17	107	82
2J02_W E. Coli tRNA ^{Phe}		-106.35	-9.15	-61.20	-36.00	11	102	89
2ZM5_C E. Coli tRNA ^{Phe}		-104.40	-16.40	-60.00	-28.00	12	100	69
2ZM5_D E. Coli tRNA ^{Phe}		-101.55	-20.95	-49.80	-30.80	15	83	76
2ZXU_C E. Coli tRNA ^{Phe}		-123.90	-33.30	-63.00	-27.60	21	105	68
2ZXU_D E. Coli tRNA ^{Phe}		-108.50	-29.50	-51.00	-28.00	18	85	69

PDB code, Name and origin	Profile of Φ -values	Energy components (kcal/mol)				Number of interactions		
		Complete energy of molecule	Hydrogen bonds	Stacking interactions	Hydrophobic interactions	Number of hydrogen bonds	Number of stacking interactions	Number of hydrophobic interactions
3FOZ_D E. Coli tRNA ^{Phe}		-104.29	-23.29	-52.20	-28.80	18	87	71
Pro								
1H4Q_T Synth (insertion 17A) tRNA ^{Pro}		-101.38	-18.18	-50.40	-32.80	17	84	81
1H4S_T Synth (insertion 17A) tRNA ^{Pro}		-104.85	-22.85	-45.60	-36.40	19	76	90
Thr								
1QF6_B E. Coli tRNA ^{Thr}		-106.40	-17.40	-54.60	-34.40	19	91	85
2FK6_R B. Subtilis Synth tRNA ^{Thr}		-85.33	-23.12	-40.20	-22.00	18	67	54
Trp								
2AKE_B Bos Taurus tRNA ^{Trp}		-91.35	-12.75	-40.20	-38.40	11	67	95

PDB code, Name and origin	Profile of Φ -values	Energy components (kcal/mol)				Number of interactions		
		Complete energy of molecule	Hydrogen bonds	Stacking interactions	Hydrophobic interactions	Number of hydrogen bonds	Number of stacking interactions	Number of hydrophobic interactions
2AZX_C Bos Taurus tRNA ^{Trp}		-108.15	-22.15	-51.60	-34.40	18	86	85
2AZX_D Bos Taurus tRNA ^{Trp}		-98.95	-16.75	-47.40	-34.80	17	79	86
2DR2_B Bos Taurus tRNA ^{Trp}		-99.67	-22.68	-37.80	-39.20	20	63	97
Tyr								
1H3E_B Synth, GUA tRNA ^{Tyr}		-122.40	-29.20	-61.20	-32.00	24	102	79
1J1U_B Synth tRNA ^{Tyr}		-124.70	-32.30	-57.60	-34.80	24	96	86
2DLC_Y Synth tRNA ^{Tyr}		-131.80	-24.80	-77.40	-29.60	16	129	73

PDB code, Name and origin	Profile of Φ -values	Energy components (kcal/mol)				Number of interactions		
		Complete energy of molecule	Hydrogen bonds	Stacking interactions	Hydrophobic interactions	Number of hydrogen bonds	Number of stacking interactions	Number of hydrophobic interactions
Val								
1GAX_C Synth tRNA ^{Val}		-109.67	-22.27	-53.40	-34.00	21	89	84
1GAX_D Synth tRNA ^{Val}		-111.08	-24.07	-52.20	-34.80	18	87	86
1IVS_C Synth tRNA ^{Val}		-113.42	-27.23	-53.40	-32.80	22	89	81
1IVS_D Synth tRNA ^{Val}		-116.80	-30.00	-52.80	-34.00	20	88	84
1J2B_C Synth tRNA ^{Val}		-99.75	-17.15	-52.20	-30.40	14	87	75
1J2B_D Synth tRNA ^{Val}		-83.60	-3.60	-45.60	-34.40	4	76	85

Data obtained by the server [FoldNucleus](http://bioinfo.protres.ru/foldnucleus) (<http://bioinfo.protres.ru/foldnucleus>).