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Table S1: ^{1}H NMR Chemical Shifts (ppm) of Ca^{2+}-Free FVII EGF1 at 25° C, pH 5.56[a]

residue	NH	$C^{\alpha}H$	$C^{\beta}H$	$C^{\gamma}H$	$C^{\delta}H$	other
S45		4.16	3.99, 3.99			
D46	8.82	4.62	2.61, 2.72			
G47	8.46	3.98, 3.98				
D48	8.10	4.70	2.73			
Q49	8.84	4.20	1.99 (Hβ2) 2.28 (Hβ3)	2.39		6.76 (Hε21), 7.60 (Hε22)
C50	9.27	4.20	2.96, 3.05			
A51	8.03	4.13	1.45			
S52	7.64	4.40	3.81, 3.89			
S53	7.96	4.12	3.90, 3.90			
P54		4.14	1.48 (Hβ2) 1.59 (Hβ3)	0.42, 1.33	3.33, 3.36	
C55	7.74	4.40	2.26 (Hβ3) 2.62 (Hβ2)			
Q56	8.51	4.20	1.70 (Hβ2) 2.06 (Hβ3)	2.40		6.81 (Hε21), 7.34 (Hε22)
N57	9.08	3.95	1.03, 1.78			7.21 (Hδ21), 8.08 (Hδ22)
G58	8.78	3.64, 4.00				
G59	7.32	3.40 (Hα3) 4.26 (Hα2)				
S60	8.52	4.77	3.96			
C61	8.90	5.34	2.90, 3.06			
K62	9.40	4.78	1.83, 1.91	1.53	1.75, 1.75	2.95 ($C^{\varepsilon}H_2$)
D63	8.82	4.76	2.58, 2.76			
Q64	8.27	4.54	1.76, 1.97	2.13		6.87 (Hε21), 7.32 (Hε22)
L65	9.06	3.96	1.57, 1.92	1.57	0.89, 0.94	
Q66	8.40	4.40	2.04	2.33, 2.74		6.82, 7.56 ($C^{\varepsilon}H_2$)
S67	8.00	4.68	3.72, 3.79			5.80 ($O^{\gamma}H$)
Y68	8.39	5.47	2.77 (Hβ3) 3.01 (Hβ2)			6.79 ($C^{\delta}H$, $C^{\varepsilon}H$)
I69	9.14	4.27	1.53	0.83, 1.29		0.59 ($C^{\gamma}H_3$), 0.75 ($C^{\delta}H_3$)
C70	8.76	5.52	2.75 (Hβ3) 2.90 (Hβ2)			
F71	9.50	4.74	3.01 (Hβ2) 3.15 (Hβ3)			7.25 ($C^{\delta}H$, $C^{\varepsilon}H$, $C^{\zeta}H$)
C72	8.89	4.77	2.71 (Hβ2) 3.33 (Hβ3)			
L73	8.51	4.64	1.72, 2.05	1.72		1.02 ($C\delta2H_3$), 1.08 ($C\delta1H_3$)
P74		4.33	1.87 (Hβ2) 2.38 (Hβ3)	2.07, 2.12	3.78, 3.89	
A75	7.55	4.03	0.84			
F76	8.04	5.24	2.74 (Hβ2) 3.06 (Hβ3)			6.88 ($C^{\delta}H$), 7.18 ($C^{\varepsilon}H$), 7.23 ($C^{\zeta}H$)
E77	9.24	4.82	1.96, 2.02	1.96		
G78	8.01	3.76, 4.91				
R79	9.26	3.91	1.77, 1.97	1.63	3.12, 3.15	7.02 ($N^{\varepsilon}H$)
N80	9.11	5.66	2.43, 3.54			6.84 (Hδ21), 7.46 (Hδ22)
C81	7.86	4.06	3.09, 3.52			
E82	10.38	3.96	1.89 (Hβ3) 2.16 (Hβ2)	2.42, 2.55		
T83	8.70	4.61	3.81	1.17		
H84	9.21	4.41	3.15			8.51 (H2), 7.11 (H4)
K85	8.47	3.86	1.31 (Hβ2) 1.70 (Hβ3)	1.00, 1.17	1.56	2.83 ($C^{\varepsilon}H_2$)

[a]Chemical shifts are referenced to the H_2O signal at 4.766 ppm and are accurate to ±0.02 ppm. Where degeneracy of shifts is confirmed from DQ experiments, the shifts are written seperately, whereas cases where degeneracy is assumed only one number is written. Stereospecifically assigned resonances are indicated.

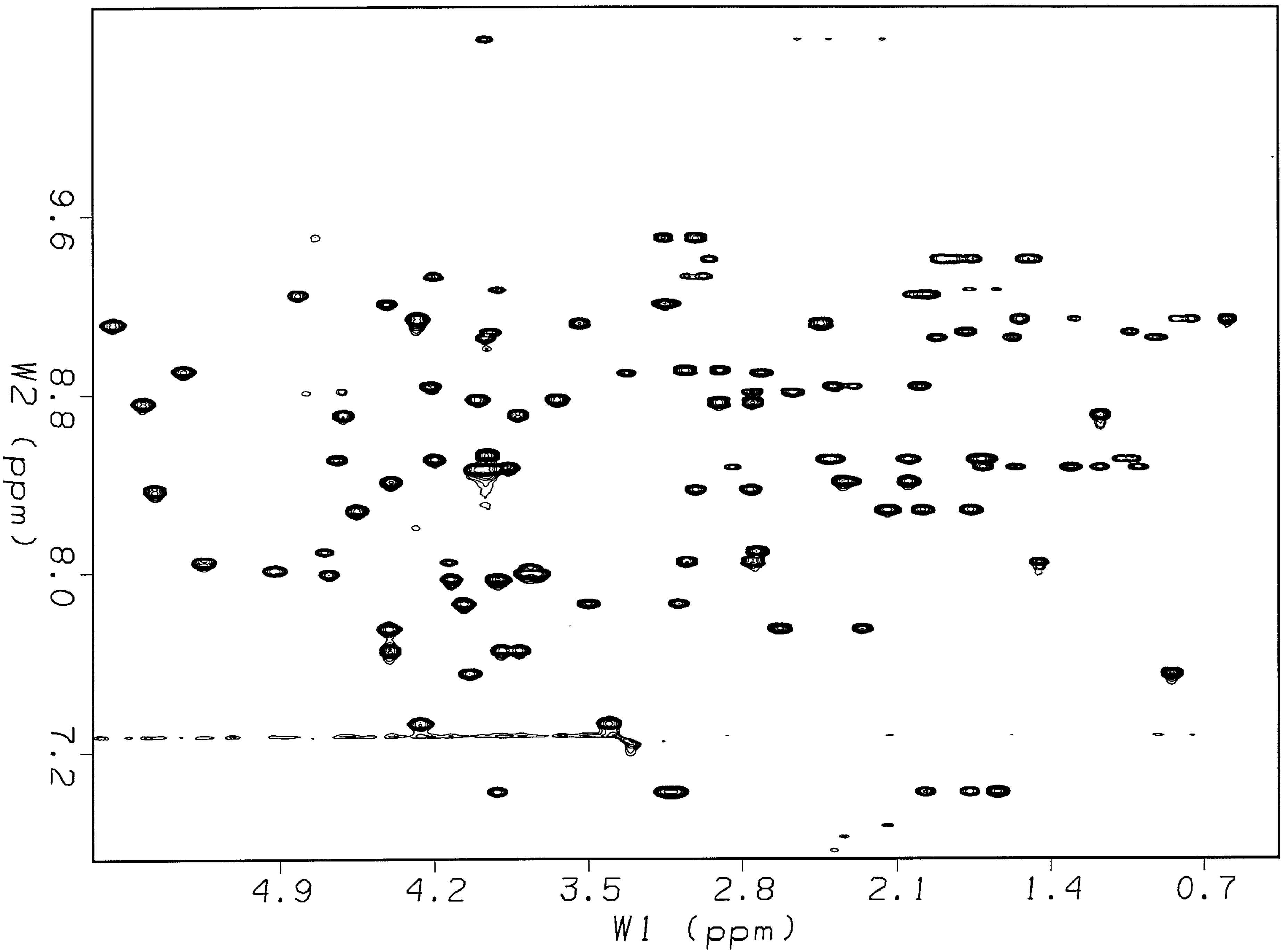
Table S2: Hydrogen bonds that were observed in more than 6 of the 23 final structures.

donor	acceptor	number[a]	distance (Å)[b]	angle (°)[c]
Ala^{51} HN	Gln^{49} O	8	2.10±0.03	138±1
Ser^{53} HN	Cys^{50} O	8	2.41±0.23	155±14
Gln^{56} HN	Asn^{80} O	8	2.20±0.12	165±10
Gly^{59} HN	Gln^{56} O	7	2.09±0.01	136±1
Ser^{60} HN	Phe^{71} O	19	2.35±0.20	160±10
Lys^{62} HN	Ile^{69} O	7*	2.15±0.08	139±3
Gln^{64} HN	Ser^{67} O	17*	2.08±0.02	146±4
Ile^{69} HN	Lys^{62} O	7*	2.28±0.08	141±10
Cys^{70} HN	Arg^{79} O	12	2.60±0.19	144±6
Phe^{71} HN	Ser^{60} O	13*	2.12±0.08	149±8
Phe^{76} HN	Leu^{73} O	13*	2.16±0.07	146±9
Cys^{81} HN	Gly^{78} O	21*	2.22±0.10	134±11
Lys^{85} HN	Ala^{75} O	12	2.13±0.04	141±3

[a]The number of structures of the final 23 for which a hydrogen bond is observed. Hydrogen bonds are counted if the hydrogen-acceptor distance is less than 2.9 Å and the donor-hydrogen-acceptor angle is greater than 135°. Asterisks (*) indicate hydrogen bonds for which a distance restraint was applied in the final structure calculations. [b]The mean hydrogen-acceptor distance (±SD) in the structures for which a hydrogen bond has been observed. [c]The angle is the mean donor-hydrogen-acceptor angle (±SD) in the structures for which a hydrogen bond has been observed.

Figure S1: Region of a TOCSY spectrum. A squared sinebell shifted 75° was applied in both dimensions, over 130 ms in t_2 (direct dimension) and over 34 ms in t_1 (indirect dimension). The solvent resonance has been removed by deconvoloution of the FID with a sinebell convolution function defined over 20 points. A linear baseline correction was applied.

Figure S2: Comparison of H^N and H^α secondary chemical shifts of the N-terminal EGF-like domains from factors VII, IX and X (*63,64*). The secondary chemical shifts were based on 'random coil' chemical shifts determined by Merutka *et al.* (*62*). The chemical shifts of FVII EGF1 are reported in Table S1, supporting information.



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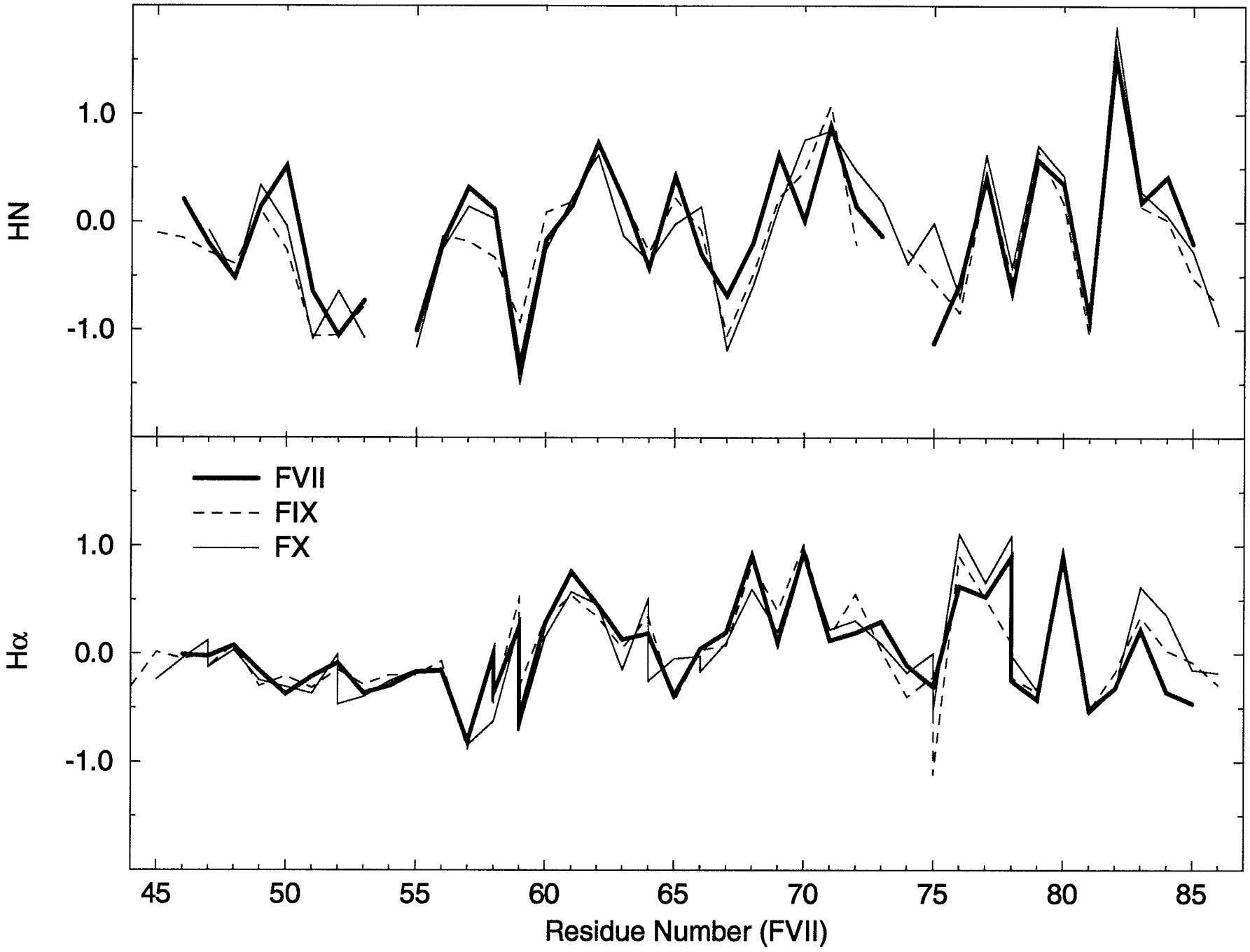
HN
1.0
0.0
-1.0
Hα
1.0
0.0
-1.0
FVII
FIX
FX
45
50
55
60
65
70
75
80
85
Residue Number (FVII)