

Supplementary table 1. Predictive value of fibrosis diagnostic models based on N-glycan markers **in the modeling group**

Fibrosis stage	Model	Cutoff value		Sen	Spec	PPV	NPV	AUROC
F0-F1vs. F2-F4	Model A	<0.8032	≥ 0.8032	0.871	0.839	0.951	0.642	0.890
		52	10					
		29	196					
F0-F2vs. F3-F4	Model B	<0.3418	≥ 0.3418	0.986	0.514	0.662	0.974	0.752
		75	71					
		2	139					
F0-F3vs. F4	Model C	<0.2258	≥ 0.2258	0.808	0.598	0.407	0.901	0.747
		128	86					
		14	59					

Footnotes: Sen: sensitivity, Spec: specificity. PPV: positive predictive value. NPV: negative predictive value.

Supplementary table 2. Predictive value of N-glycome models for assessing liver fibrosis **in the validation group.**

Fibrosis stage	Model	Cutoff value		Sen	Spec	PPV	NPV	AUROC
F0-F1vs. F2-F4	Model A	<0.8032	≥ 0.8032	0.946	0.788	0.938	0.813	0.915
		26	7					
		6	106					
F0-F2vs. F3-F4	Model B	<0.3418	≥ 0.3418	0.829	0.627	0.674	0.797	0.815
		47	28					
		12	58					
F0-F3vs. F4	Model C	<0.2258	≥ 0.2258	0.400	0.954	0.333	0.808	0.772
		105	5					
		25	10					

Footnotes: Sen: sensitivity, Spec: specificity. PPV: positive predictive value. NPV: negative predictive value.

Supplementary table 3. Areas under ROC curves (AUROCs) of different models (panels) in the validation group

Serum maker panels for fibrosis assessment	F0-F1 vs. F2-F4	F0-F2 vs. F3-F4	F0-F3 vs. F4
Model A	0.915	-	-
Model B	-	0.815	-
Model C	-	-	0.772
GlycoFibroTest	0.511	0.538	0.675
GlycoCirrhoTest	0.681	0.628	0.743
APRI	0.796	0.746	0.767
FIB-4	0.584	0.705	0.766
S index	0.687	0.690	0.749
Model A+ALT+PLT	0.929		
Model B+ALT+PLT		0.858	
Model C+ALT+PLT			0.867

Supplementary table 4. Predictive value of combined diagnostic models in distinguishing adjacent fibrosis stages of 432 patients

Fibrosis stage	Model	Cutoff value		Sen	Spec	PPV	NPV	AUROC
F0-F1 vs. F2-F4	Model A+ALT+PLT	<0.7072	≥0.7072	0.925	0.811	0.945	0.755	0.917
		77	18					
F0-F2 vs. F3-F4	Model B+ALT+PLT	<0.5717	≥0.5717	0.833	0.510	0.769	0.610	0.720
		53	51					
F0-F3 vs. F4	Model C+ALT+PLT	<0.4900	≥0.4900	0.823	0.649	0.752	0.738	0.785
		48	26					
		17	79					

Footnotes: Sen: sensitivity, Spec: specificity. PPV: positive predictive value. NPV: negative predictive value.

Supplementary table 5. Characteristics of 159 HCV-Infected patients in different fibrosis stages diagnosed by liver biopsy (mean±SD)

variable	Fibrosis stage			
	F1	F2	F3	F4
Case number,n	53	39	29	38
Male number,n(%)	27 (50.94%)	19 (48.72%)	16 (55.17%)	11 (28.95%)
Age (years)	42.92±13.23	50.33±8.94	53.07±10.97	59.26±10.24
ALT (IU/L)	45.19±61.57	74.80±93.39	65.83±73.39	64.38±75.59
AST (IU/L)	35.93±30.00	52.17±49.14	56.92±51.64	63.87±68.05
GGT (IU/L)	49.67±51.72	52.85±40.56	66.60±76.78	51.03±34.96
ALP (IU/L)	74.85±32.60	72.64±22.69	84.50±26.21	86.78±36.48
PLT (10 ⁹ /L)	191.34±59.81	161.74±54.50	154.75±48.08	101.40±57.14
Total bilirubin (µmol/L)	15.96±8.69	26.16±47.69	13.83±5.47	24.75±19.74
Indirect bilirubin (µmol/L)	10.13±3.86	10.38±4.16	8.81±4.36	11.10±5.78
Albumin(g/L)	46.48±4.05	43.27±3.66	43.98±2.23	38.69±6.32

Supplementary table 6. N-glycome profiling results in HCV-infected patients with liver fibrosis F1-F4 (mean±SD)

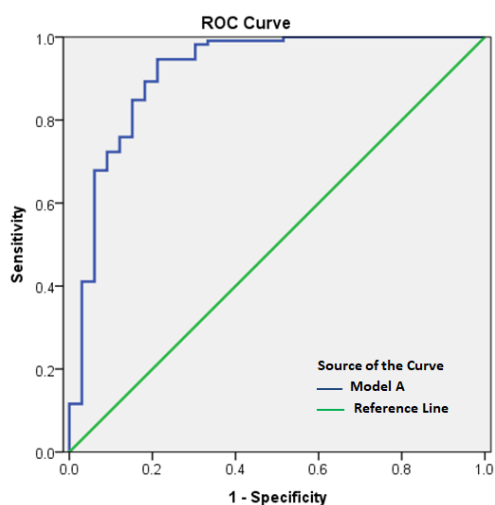
Peak	F1	F2	F3	F4
1	8.24±2.94	9.31±2.68	11.25±3.74	14.30±5.86
2	1.81±0.78	2.11±0.71	2.44±0.88	3.16±1.07
3	6.14±1.28	6.28±1.14	6.60±1.15	8.13±1.98
4	4.64±0.72	4.74±0.76	4.80±0.68	5.32±0.96
5	48.84±4.89	47.51±4.09	45.80±5.09	39.26±9.01
6	15.88±2.28	16.17±2.69	15.78±2.07	17.03±2.66
7	4.73±1.39	4.89±1.29	4.99±1.39	5.88±1.91
8	7.58±2.22	6.94±1.92	5.90±1.43	4.06±1.78
9	2.17±1.17	2.03±0.99	2.44±0.83	2.85±0.89

Supplementary table 7. Predictive value of fibrosis diagnostic models based on N-glycan markers in 159 HCV-infected patients

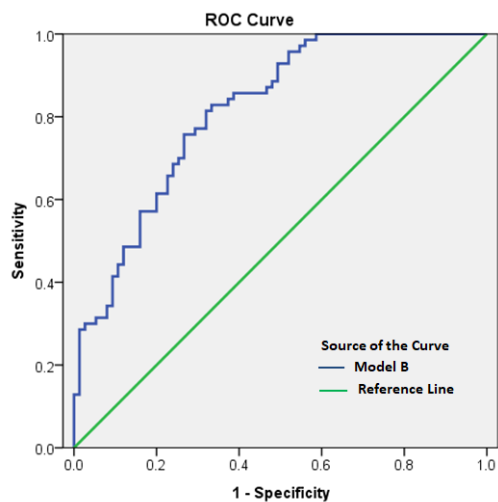
Fibrosis stage	Model	AUROC
F1vs. F2-F4	Model A	0.697
F1-F2vs. F3-F4	Model B	0.718
F1-F3vs. F4	Model C	0.740

Supplementary figure 1.

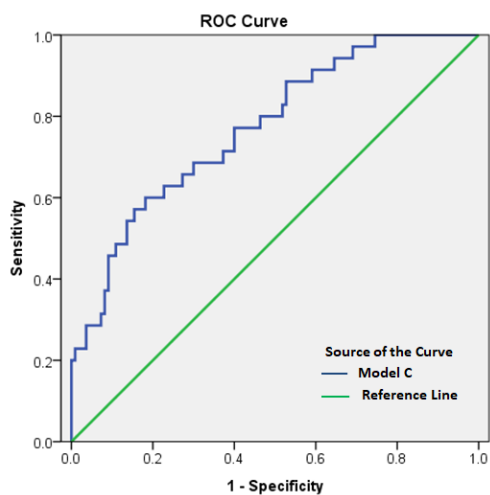
A.



B.



C.

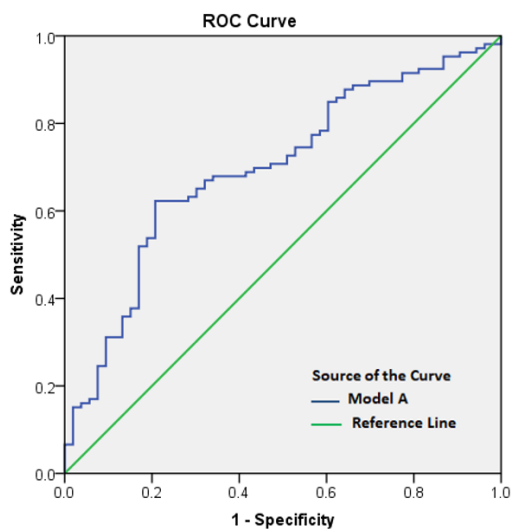


Supplementary figure 1.

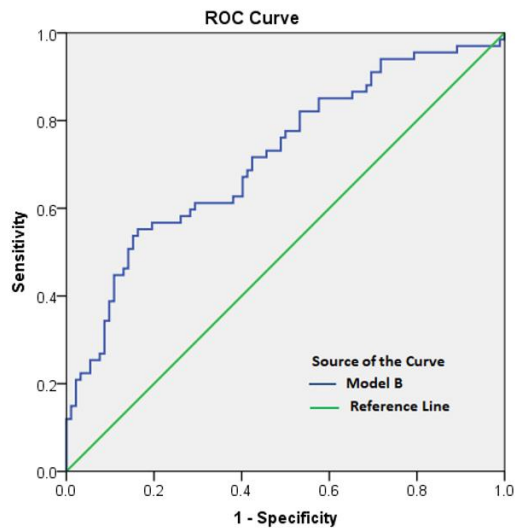
A. Receiver operating characteristic (ROC) curve for the distinction of fibrosis F0-F1 from fibrosis F2-F4 in the validation group of chronic hepatitis B patients. (AUROC of Model A=0.915) B. ROC curve for the distinction of fibrosis F0-F2 from fibrosis F3-F4. (AUROC of Model B=0.815). C. ROC curve for the distinction of fibrosis F0-F3 from fibrosis F4. (AUROC of Model C=0.772).

Supplementary figure 2.

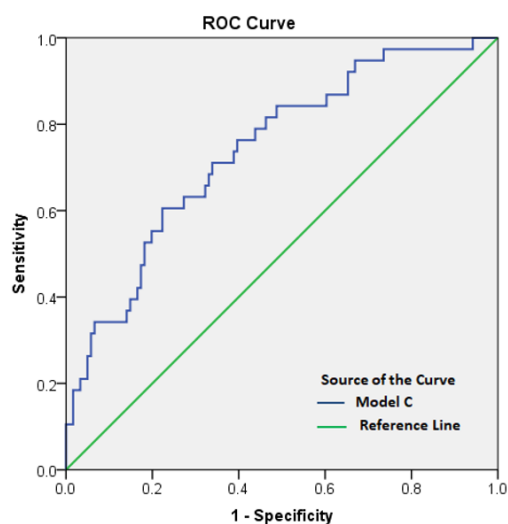
A.



B.



C.



Supplementary figure 2.

A. Receiver operating characteristic (ROC) curve for the distinction of fibrosis F1 from fibrosis F2-F4 in 159 HCV-Infected patients. (AUROC of Model A=0.697) B. ROC curve for the distinction of fibrosis F1-F2 from fibrosis F3-F4. (AUROC of Model B=0.718). C. ROC curve for the distinction of fibrosis F1-F3 from fibrosis F4. (AUROC of Model C=0.740).