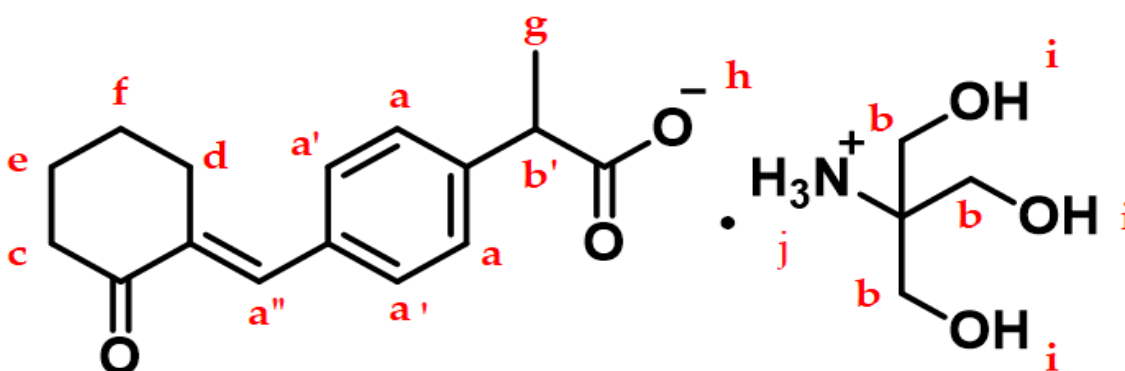


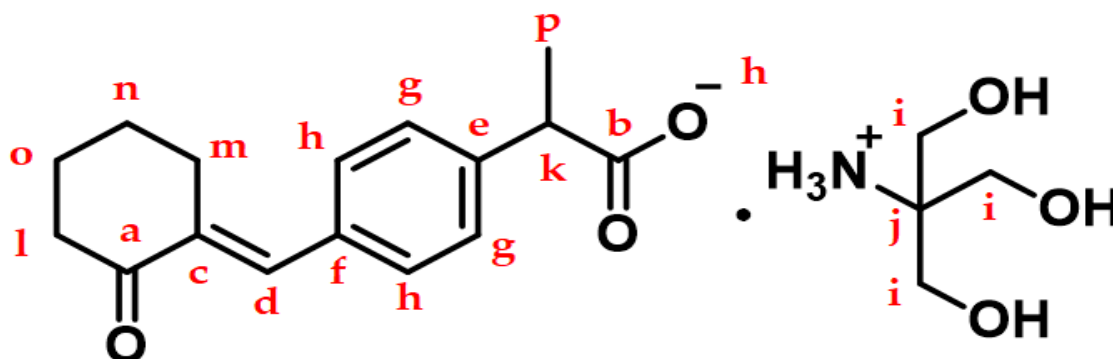
Supplementary Materials: Development of Novel Pelubiprofen Tromethamine Salt with Improved Gastrointestinal Safety and Absorption to the Commercial Pelubiprofen

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Table S1. ^1H NMR ($\text{DMSO}-d_6$ at 400 MHz) chemical shifts (δ) and assignments of the PEL-T.



Assignments	Chemical Shifts	No. of Hydrogen
a, a', a''	7.30–7.34	5
i, j	5.33	6
b'	3.44–3.46	1
b	3.37	6
c	2.77	2
d	2.40–2.48	2
e	1.82	2
f	1.67	2
g	1.28–1.30	3

Table S2. ^{13}C NMR (DMSO- d_6 at 400 MHz) chemical shifts (δ) and assignments of the PEL-T.

Assignments	Chemical shifts	No. of carbons
a	200.62	1
b	177.62	1
c	145.39	1
d	136.39	1
e	134.81	1
f	133.15	1
g	130.52	2
h	128.13	2
i	61.00	3
j	60.21	1
k	47.73	1
l	40.42	1
m	28.89	1
n	23.71	1
o	23.13	1
p	19.83	1

Table S3. Stress stability (contents).

Storage Conditions	Time (days)	Contents (%) ^a	
		PEL	PEL-T
80 ± 5 °C	0	98.6 ± 0.8	98.4 ± 0.1
	14	98.2 ± 0.6	98.1 ± 0.1
	21	97.1 ± 0.9	98.2 ± 0.2
RH 90 ± 5%	0	98.6 ± 0.8	98.4 ± 0.1
	14	98.9 ± 0.4	98.6 ± 0.2
	21	98.5 ± 0.4	98.3 ± 0.2

Each value represents the mean ± S.D. ($n = 3$).; ^a Acceptance criteria was set for PEL contents of 95%–105%.; PEL, pelubiprofen; PEL-T, pelubiprofen tromethamine; RH, relative humidity

Table S4. Stress stability (degradation products).

Storage conditions	Time (days)	Degradation Products (%) ^a			
		Impurity A		Total peaks	
		PEL	PEL-T	PEL	PEL-T
80 ± 5 °C	0	0.19 ± 0.03	0.15 ± 0.02	0.24 ± 0.03	0.24 ± 0.03
	14	0.22 ± 0.03	0.16 ± 0.02	0.31 ± 0.03	0.24 ± 0.01
	21	0.21 ± 0.02	0.13 ± 0.03	0.87 ± 0.05	0.35 ± 0.04
RH 90 ± 5%	0	0.19 ± 0.03	0.15 ± 0.02	0.24 ± 0.03	0.24 ± 0.03
	14	0.20 ± 0.03	0.15 ± 0.03	0.26 ± 0.01	0.24 ± 0.01
	21	0.16 ± 0.02	0.12 ± 0.02	0.33 ± 0.02	0.45 ± 0.06

Each value represents the mean ± S.D. ($n = 3$). ^aAcceptance criteria was set for degradation products of less than 0.5% for the impurity A and 1.0% for the total peaks in the relative peak area.

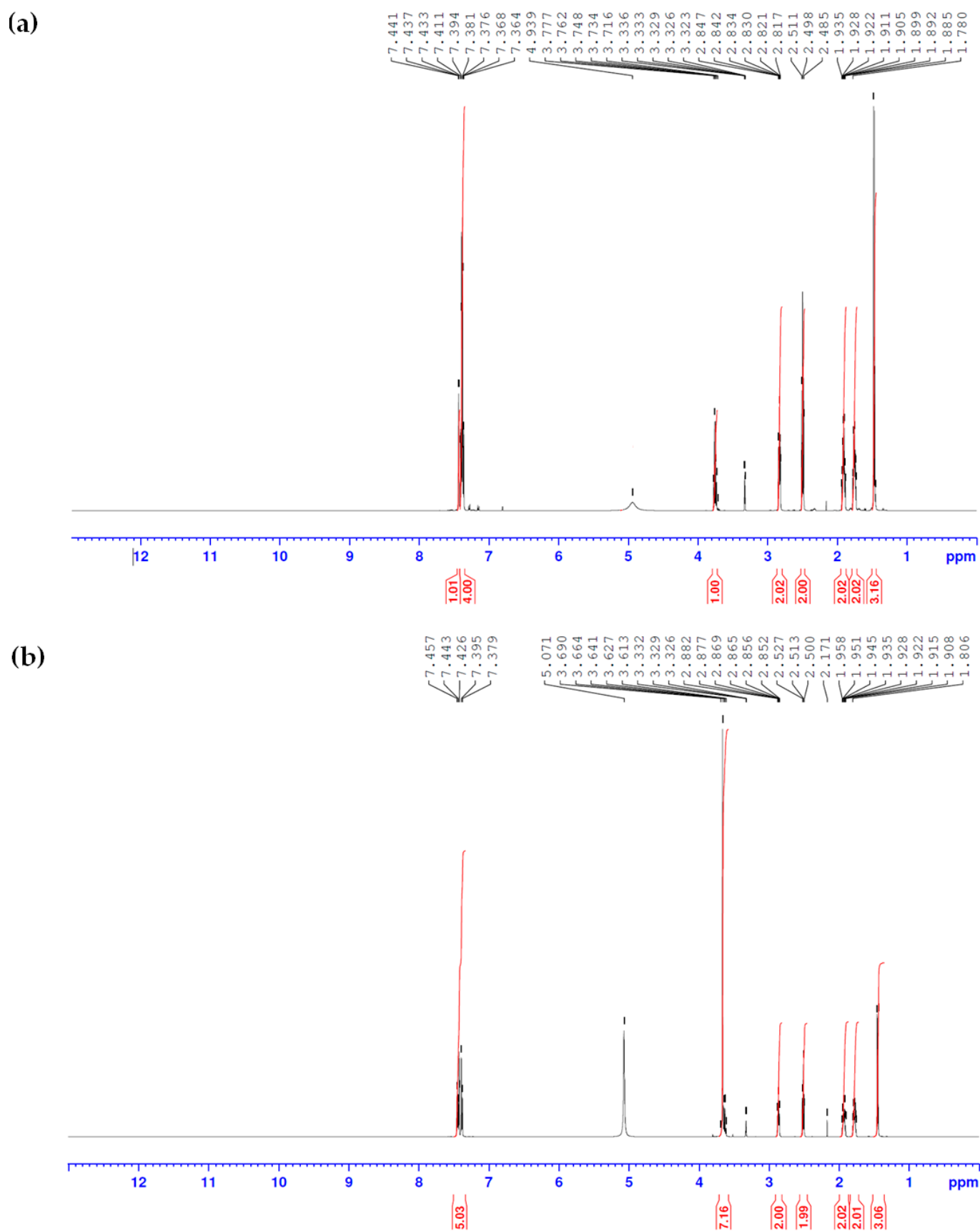
Figure S1. ^1H NMR spectra (methanol- d_4 at 500 MHz) of (a) PEL and (b) PEL-T.

Figure S2. (a) ^1H NMR spectra ($\text{DMSO}-d_6$ at 400 MHz) and (b) ^{13}C NMR spectra ($\text{DMSO}-d_6$ at 400 MHz) of PEL-T.

