

Supplementary Materials

Figure S1: The insertion of AtaPT in MCS-1 of pCDFDuet-1 vector

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CGGGAATCGAATCGCGAGTATACGACTCACTATAGGGGAATTGTGAGCGGATAACAATCCC
CCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACCATGGGCAGCAGCCCATCAC
6XHIS RBS 6XHIS
CATCATCACCACAGCCAGGATCCGATGCTCCCCCATCAGACAGCAAAGATCCCCGGCCCT
BamHI Start codon
GGCAGATCCTGAGCCAGGCGCTCGGCTTCCCCAATTACGACCAGGAACTGTGGTGGCAAAA
CACGGCGGAGACGCTCAACCGCGTCCTCGAACAGTGCGATTACAGCGTGCATCTGCAGTAC
AAGTACCTCGCCTTCTACCACAAATACATCCTCCCCAGTCTGGGCCCCCTTCCGCCGCCCGG
GCGTCGAGCCCGAGTACATCAGCGGCCTCTCCACGGCGGCCATCCGCTGGAGATCAGCG
TCAAGATCGACAAGTCCAAAACGATCTGCCGGCTCGGATTGCAGGCGATCGGGCCGCTCGC
CGGCACCGCGCGCGACCCGCTCAACAGCTTCGGCGACCGTGAACTCTCAAGAATCTCGCG
ACGCTGCTGCCGCACGTGCACCTGCGCTTGTTTCGACCACTTCAACGCGCAGGTCGGGCTCG
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TGGCGCCGCCCCAGATCTACTTCCCCTGCTGGGCATTAATGACGGGTTCATTGCGGATGC
TCTAGTTGAATTCTTCCAGTACATGGGCTGGGAGGACCAGGCGAATCGGTACAAGGATGAA
CTGAAGGCGAAATTTCCCAATGTGGATATCTCGCAGACCAAGAACGTCCATCGCTGGCTGG
GAGTGGCGTACTCCGAGACCAAGGGCCGTCGATGAACATTTACTACGATGTGGTTGCGGG
AAATGTCGCACGTGTGTGAGCGGCGCGC
Stop codon
NotI
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Figure S2: The insertion of CstDXS in MCS-2 of pCDFDuet-1 vector

RBS

KpnI Start codon

TCTTAGTATATTAGTTAAGTATAAGA**AAGGAG**ATATACATATGGCAGATCTCAATTGGATAT
 CGGCCGGCCAGCCGATCGCTGACGTCGGT**ACC**ATGGCATCACTTTTCAGAAAGTGCAGAGTA
 TCACTCAAACAGACCAGCAACACCTCTACTGGACACCATCAACTTTCCAATTCATATGAAA
 AATCTATCAATCAAGGAAGTGAAGCAGCTAGCAGAAGAGCTCCGTTTCAGATGTTATTTTCA
 ATGTTTCTAAAAGTGGGGGTCAGTTGGGATCAAGCCTTGGTGTGTTGAACTTACTGTGGC
 TCTTCACTATATTTTCAATACTCCTCAAGATAAGATTCTGTGGGATGTTGGCCATCAGTCT
 TACCCCCACAAAATCCTTACCGGGAGAAGAGACAGGATGCGCACAAATAGACAGACTAATG
 GGCTTTCTGGGTTTACCAAACGAGCTGAGAGCGAACATGATTGCTTTGGCACTGGCCATAG
 CTCTACCACTATTTCTGCAGGCTTGGGAATGGCAGTGGGGAGAGATTTAAAAGAAAGAAAG
 AACAAATGTTGTGGCTGTTATAGGAGACGGAGCCATGACAGCAGGACAAGCTTATGAAGCTA
 TGAACAATGCAGGATACTTGGACTCCGATATGATTGTTATTCTCAATGACAACAAACAGGT
 TTCTTTACCAACTGCTACGCTTGATGGACCAATACCACCTGTGGGAGCTTTGAGCAGTGCT
 CTTAGCAGGTTGCAATCCAACCGGCCTTTAAGAGAACTAAGAGAGATTGCCAAGGGTGTTA
 CAAAGCAAATTTGGTGGACAGATGCATGAGTTGGCTGCAAAGGTTGATGAATATGCACGTGG
 TATGATAAGTGCTTCTGGATCATCTCTTTTTGAAGAGCTTGGTTTGTATTATATTGGTCCA
 GTTGACGGTCACAATATCGAGGATCTTGTCGATATCCTTAAAGAGGTTAAAAGCACCAAA
 TCAACTGGGCCAGTCTTGATTTCATGTCGTTACTGAGAAAGGCCGGGGATATCCATATGCTG
 AGAGAGCCGCAGACAAGTACCACGGAGTAACCAAGTTTGATCCTGCAACCGGGAAGCAATT
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 GCAGAAGTGGACAAGGATATTGTCGCAATTCATGCTGCAATGGGAGGAGGAACAGGCTTGA
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 TGTTACATTTGCTGCTGGATTGGCCTGCGAAGGCCTTAAACCTTTCTGTGCTATCTATTCA
 TCTTTCATGCAGAGGGCTTACGACCAGGTGGTGCACGATGTGGATTTGCAGAACTTCCTG
 TAAGATTCGCGATGGATAGAGCTGGCCTCATCGGAGCAGATGGTCCCACACATTGTGGAGC
 CTTTGATGTTACTTTTCATGGCGTGCCCTCCTAACATGGTGGTGGTGGCTCCTTCTAATGAA
 GCAGAACTCTTTAACATGGTTGCCACTGCTGCTGCCATAGATGATCGTCCAAGCTGTTTCC
 GATATCCGAGAGGAAACGGTATCGGTGTTCCNCTGCCNCCTGGAAACAAAGGCATTCCNT
 TGAGGTTGGAAAAGGAAGGATCTTGATTGAGGGGGAGCGAGTGGCGCTACTGGGATATGGT
 GCAGCAGTTCAAACTGTCTAGCTGCTGCATCTTTAGTTGAAACCCCGGCTTACGTGTAA
 CTGTTGCAGATGCTAGATTTTGTAACCATTAGATCAATCTCTGATTCGAAGTCTAGCGAA
 GTCNCACGAAGTTTTGATTACGGTTGAAGAAGGCTCAATTGGGGGATTTGGATCTCATGTT
 GCTCATTTTATGGCTCTCAATGGCCTTCTTGATGGCANCCCTAAGTGGCGACCGCTCGTTN
 TTCCCGATCGATATATTGAGCNCGGATCNC CGGCAGACCAGTTGATAGAGGCAGGTTTAAC
 NCCATCTCNCATTGCCGCAACAATATTCAACATACTTGGAACAAAAGAGAAGCTCTGCAA
 ATTATGTCAGCACTCGAGTCTGGT**AAAGAAACCGCTGCTGCGAAATTTGAACGCCAGCACA**
TGGACTCG *XhoI* S.Tag

Figure S3: Verified insertion of CstDXS (~1992 bp) in pCDFDuet-AtaPT (~5,020 bp) via *Kpn*I and *Xho*I digestion

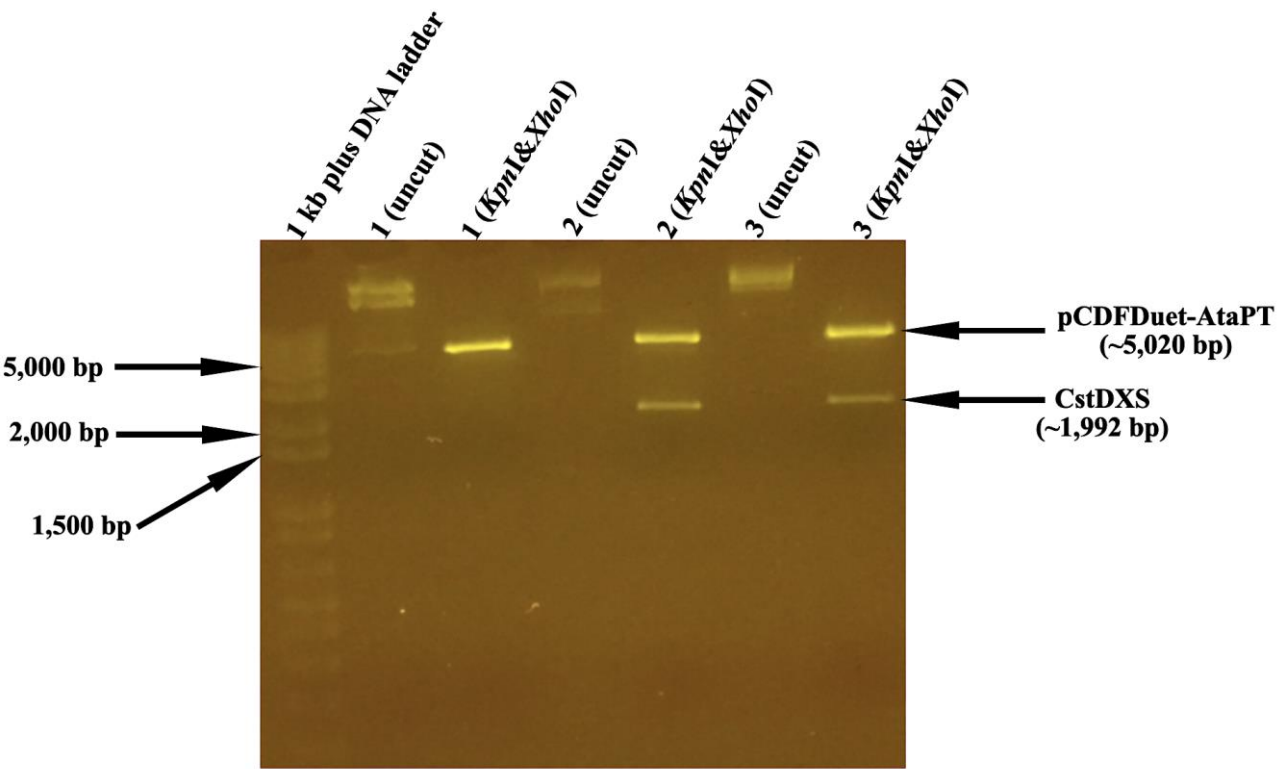


Figure S4: The raw mass data for putative ferulenol (2)

Compound-1	
Molecular ion 365.2120 RT 21.3 min	
m/z	Intensity
96.9611	128
120.0216	132
161.0249	400
174.0305	436
187.0397	580
200.0827	172
213.0559	656
214.0597	308
227.0714	604
228.02792	1432
229.02792	416
365.2154	960

Figure S5: The proposed reaction mechanisms illustrating the various chemical losses present in the MS/MS spectrum of compound-1

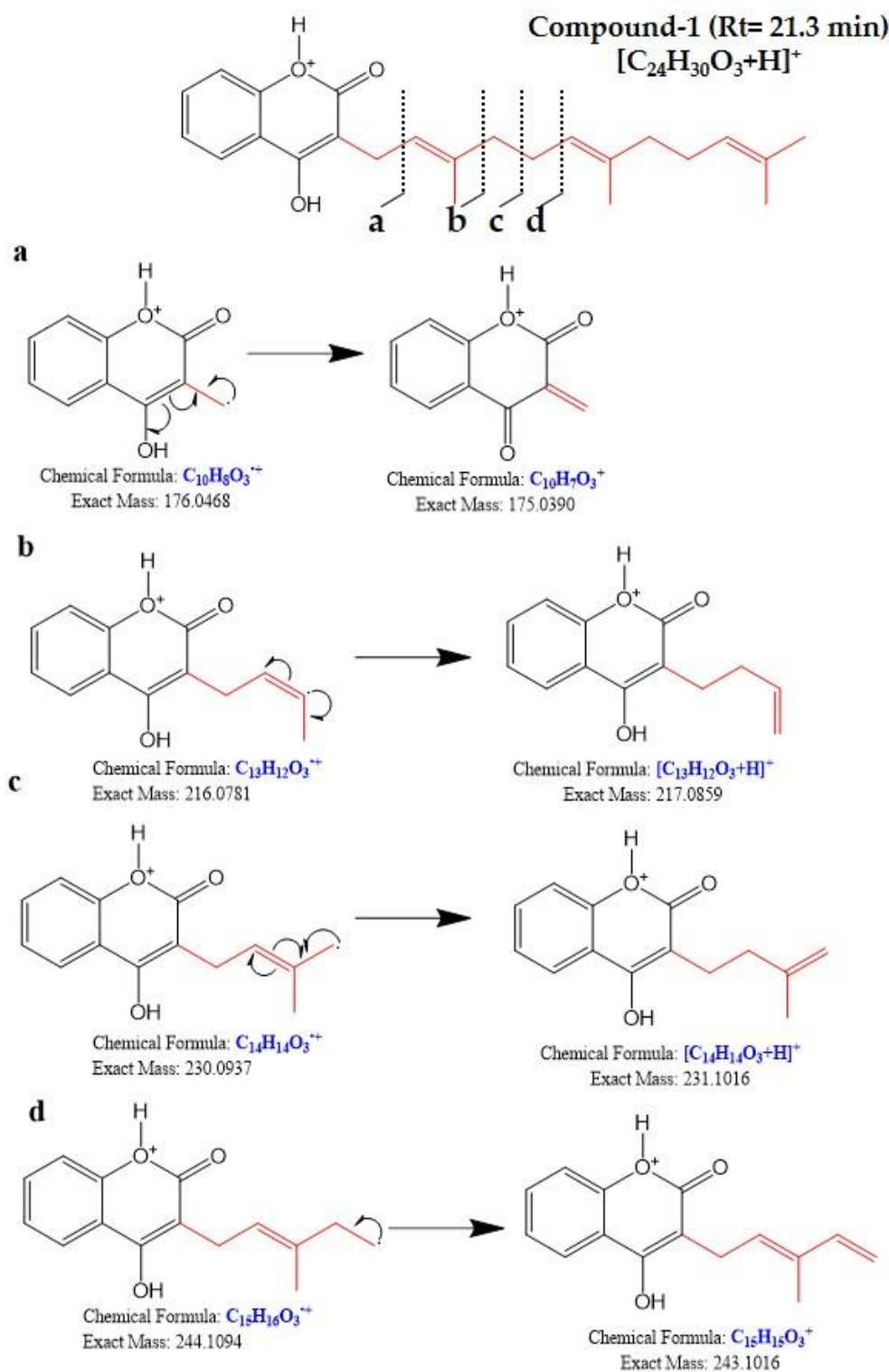


Figure S6: The proposed reaction mechanisms illustrating the various chemical losses present in the MS/MS spectrum of compound-2

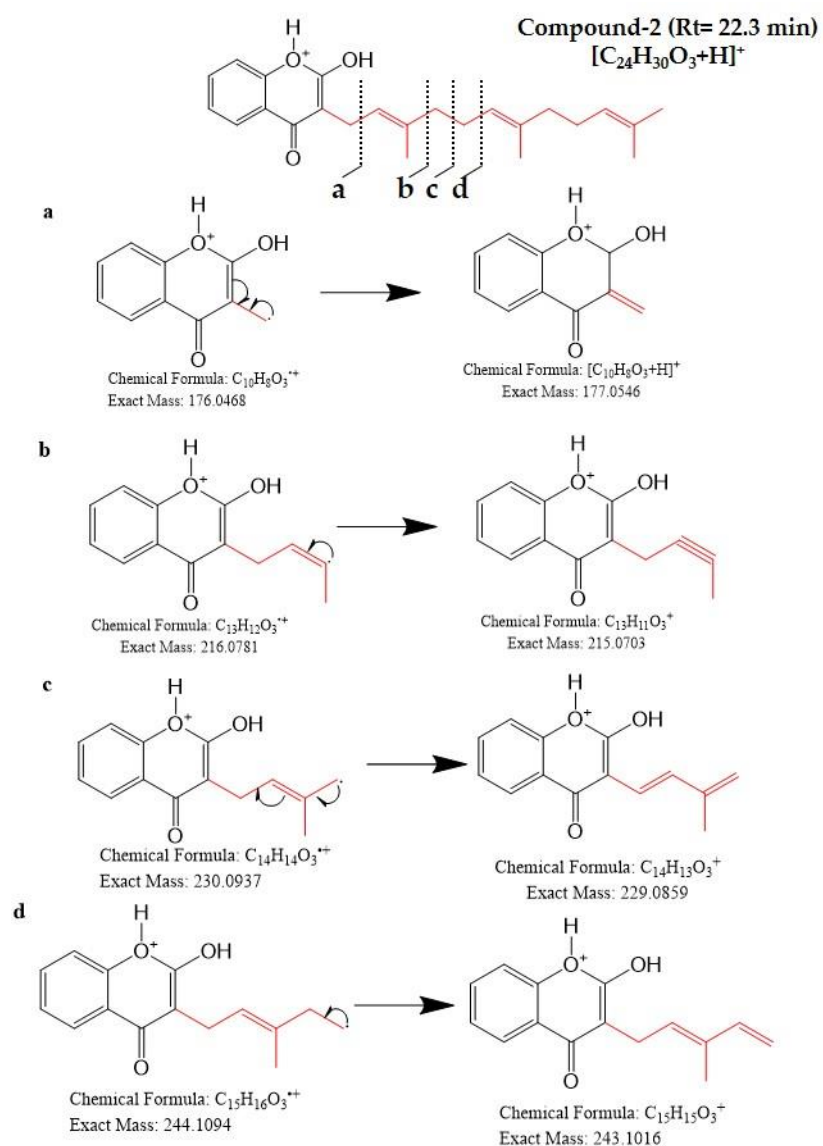


Figure S7: Figure S7: The postulated mechanisms underlying the formation of ion m/z 189.05 of compound-1

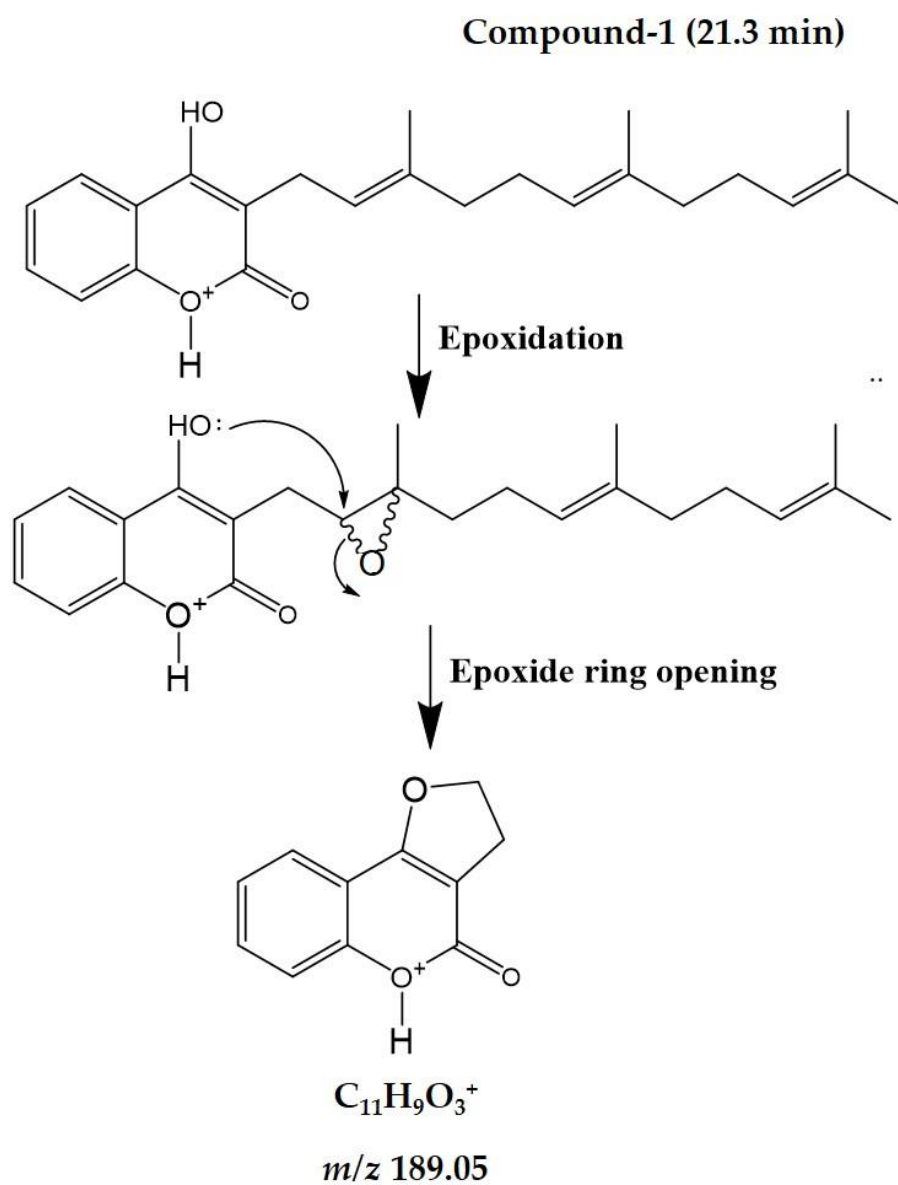


Figure S8 The postulated mechanisms underlying the formation of ion m/z 189.05 of compound-2

