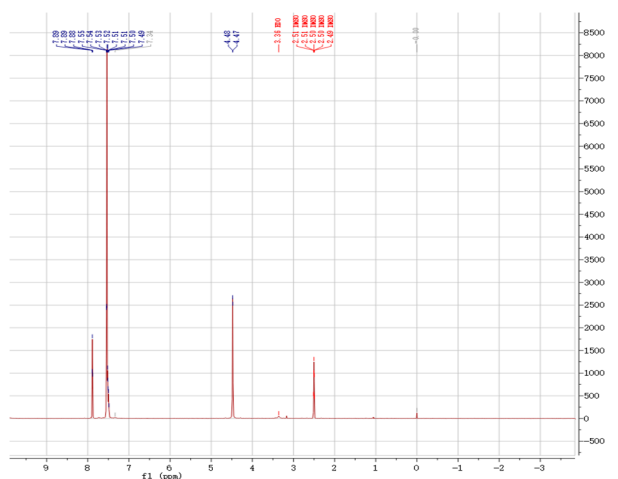
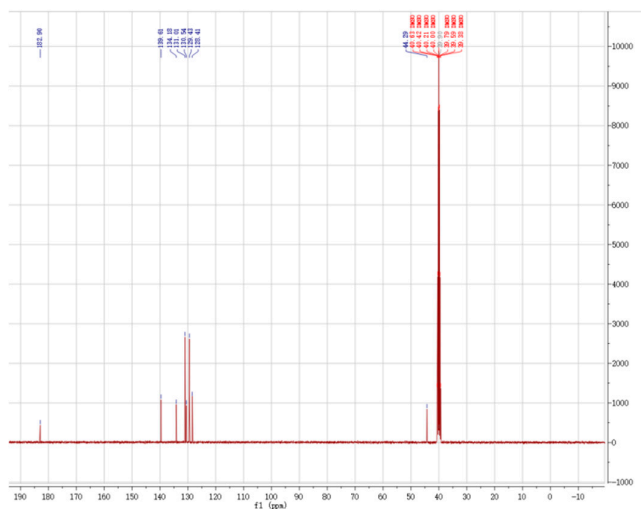


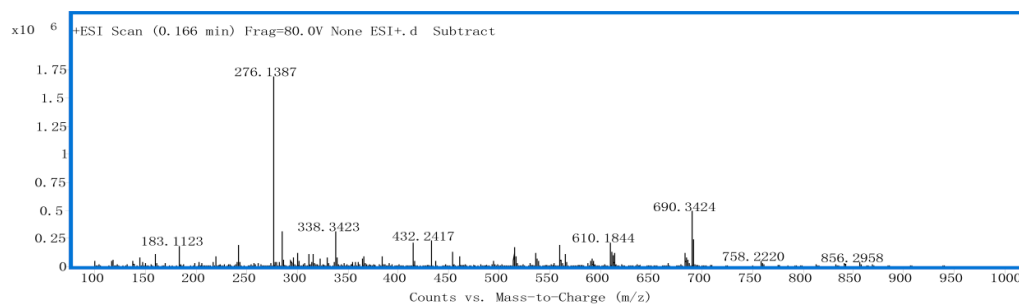
## Supplementary Materials



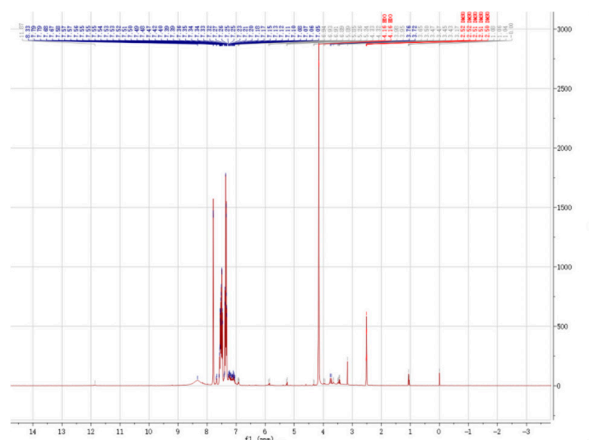
**Figure S1**  $^1\text{H}$ -NMR (400 MHz, DMSO- $d_6$ ) spectrum of 3, 5-dibenzylidene-4-piperidone (Benzaldehyde)



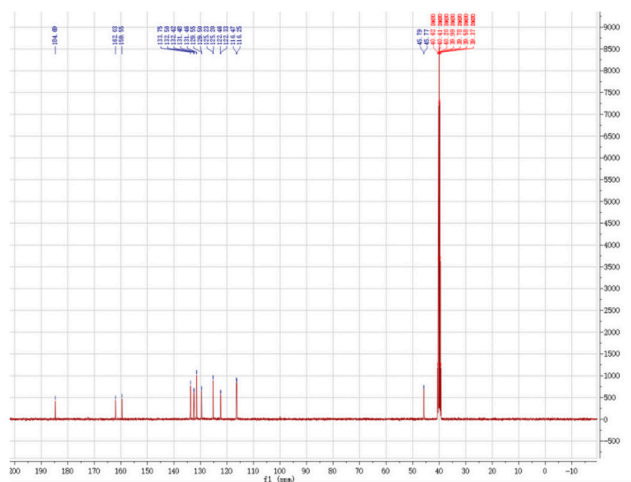
**Figure S2**  $^{13}\text{C}$ -NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of 3, 5-dibenzylidene-4-piperidone (Benzaldehyde)



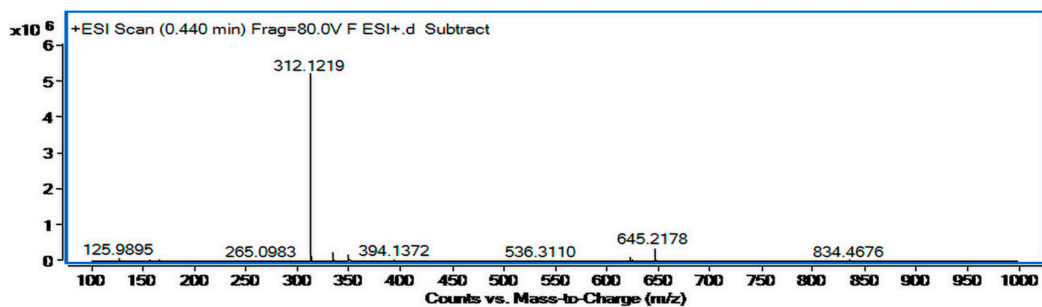
**Figure S3** HR-MS (ESI) spectrum of 3, 5-dibenzylidene-4-piperidone (Benzaldehyde)



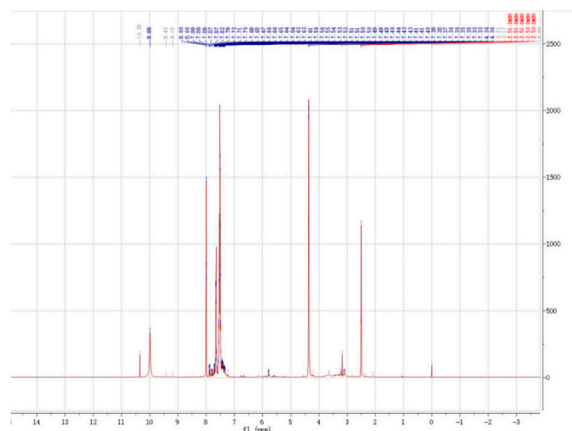
**Figure S4**  $^1\text{H}$ -NMR (400 MHz, DMSO- $d_6$ ) spectrum of 3,5-bis(2-fluorobenzyl)-4-piperidinone (2-F)



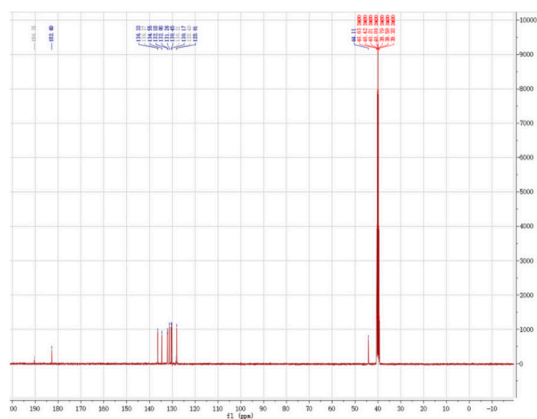
**Figure S5**  $^{13}\text{C}$ -NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of 3,5-bis(2-fluorobenzyl)-4-piperidinone (2-F)



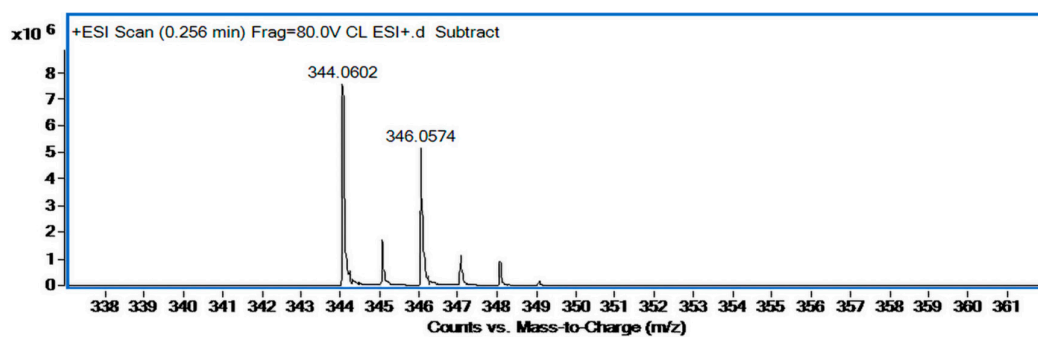
**Figure S6** HR-MS (ESI) spectrum of 3,5-bis(2-fluorobenzyl)-4-piperidinone (2-F)



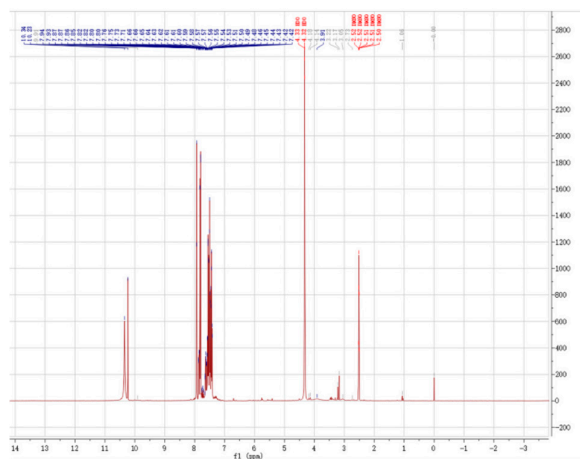
**Figure S7**  $^1\text{H}$ -NMR (400 MHz, DMSO- $d_6$ ) spectrum of 3, 5-bis(2-chloro-benzyl)-4-piperidinone (2-Cl)



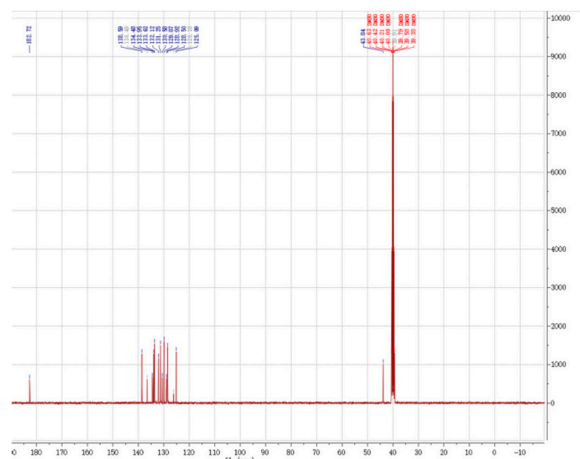
**Figure S8**  $^{13}\text{C}$ -NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of 3, 5-bis(2-chloro-benzyl)-4-piperidinone (2-Cl)



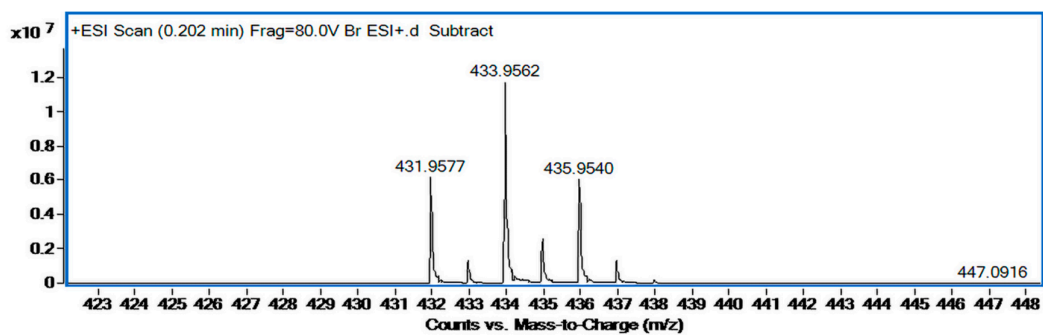
**Figure S9** HR-MS (ESI) spectrum of 3, 5-bis(2-chloro-benzyl)-4-piperidinone (2-Cl)



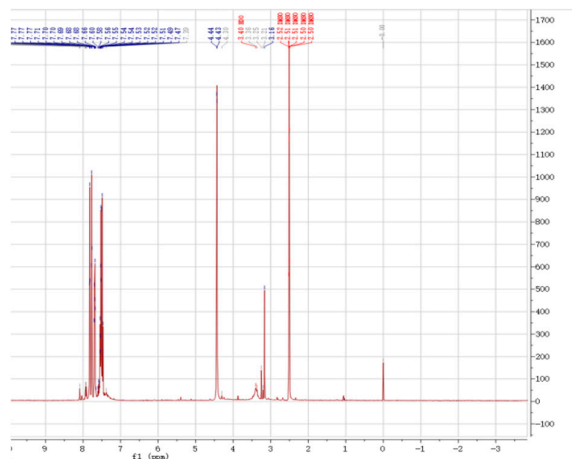
**Figure S10**  $^1\text{H}$ -NMR (400 MHz, DMSO- $d_6$ ) spectrum of 3, 5-bis(2-bromo-benzyl)-4-piperidone (2-Br)



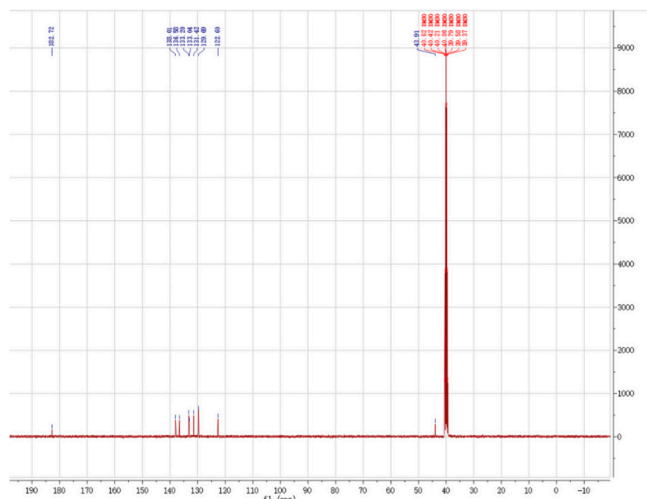
**Figure S11**  $^{13}\text{C}$ -NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of 3, 5-bis(2-bromo-benzyl)-4-piperidone (2-Br)



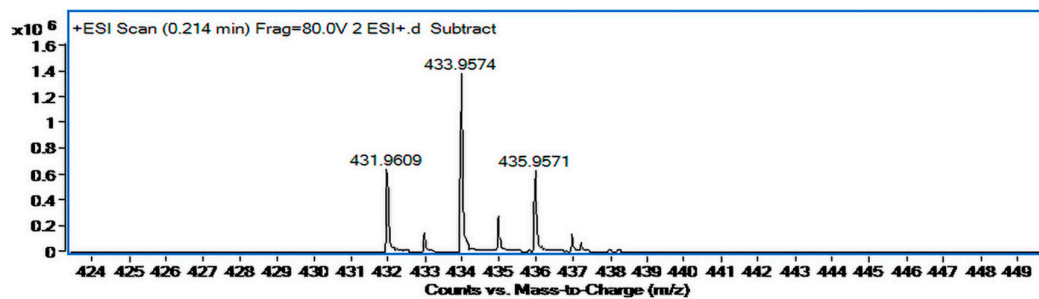
**Figure S12** HR-MS (ESI) spectrum of 3, 5-bis(2-bromo-benzyl)-4-piperidone (2-Br)



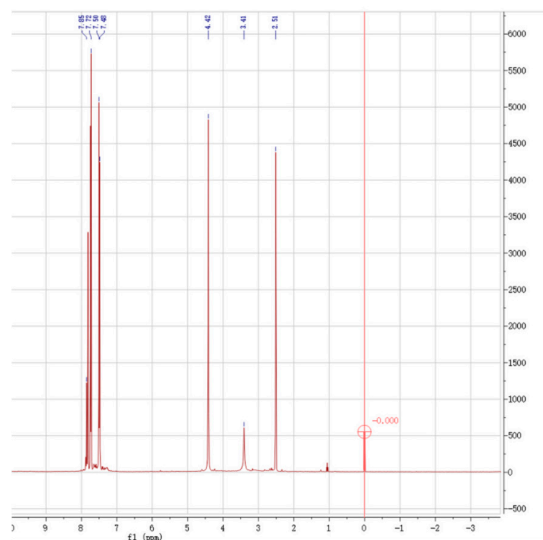
**Figure S13**  $^1\text{H}$ -NMR (400 MHz,  $\text{DMSO-d}_6$ ) spectrum of 3, 5-bis(3-bromo-benzyl)-4-piperidone (3-Br)



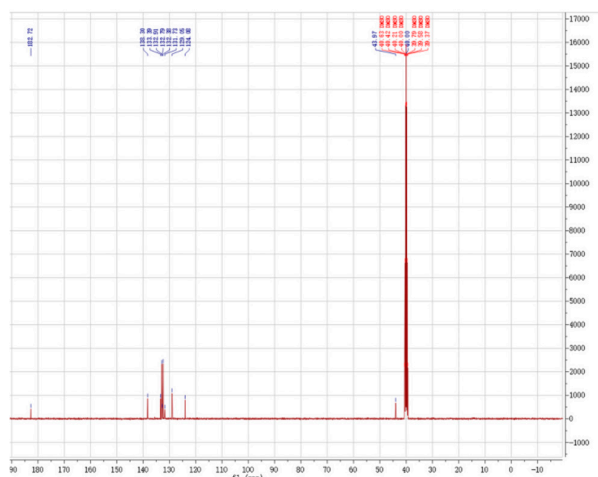
**Figure S14**  $^{13}\text{C}$ -NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of 3, 5-bis(3-bromo-benzyl)-4-piperidone (3-Br)



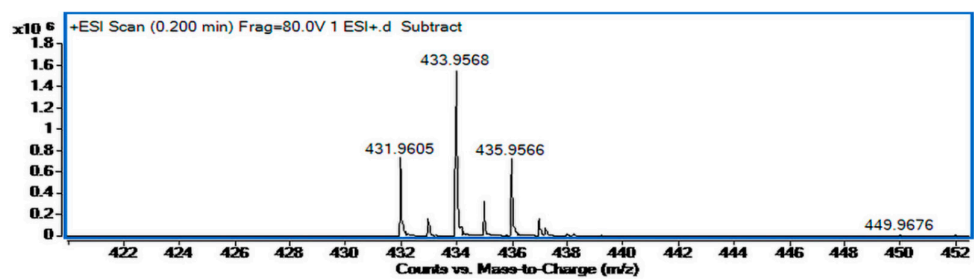
**Figure S15** HR-MS (ESI) spectrum of 3, 5-bis(3-bromo-benzyl)-4-piperidone (3-Br)



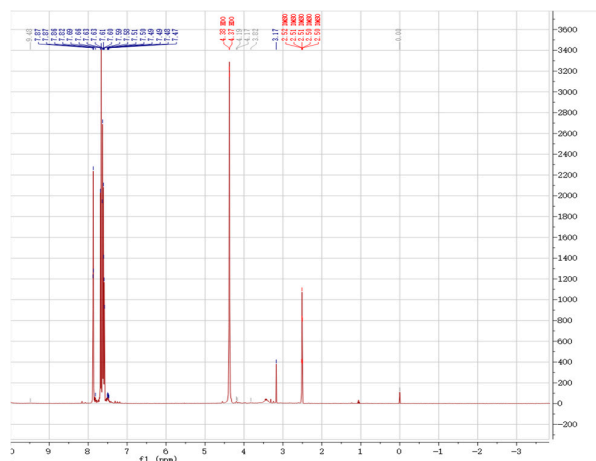
**Figure S16**  $^1\text{H}$ -NMR (400 MHz, DMSO- $d_6$ ) spectrum of 3, 5-bis(4-bromo-benzyl)-4-piperidinone (4-Br)



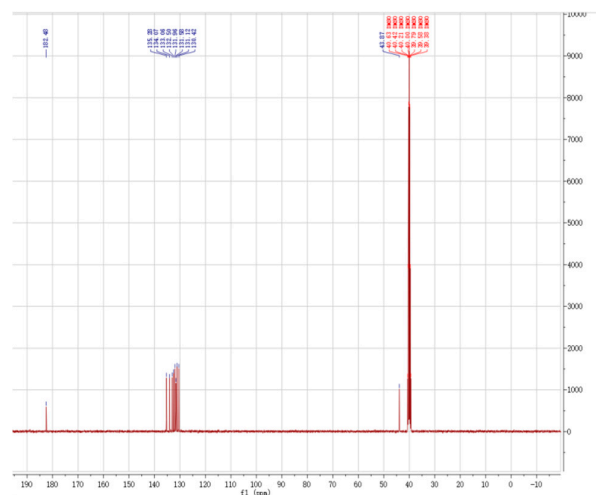
**Figure S17**  $^{13}\text{C}$ -NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of 3, 5-bis(4-bromo-benzyl)-4-piperidinone (4-Br)



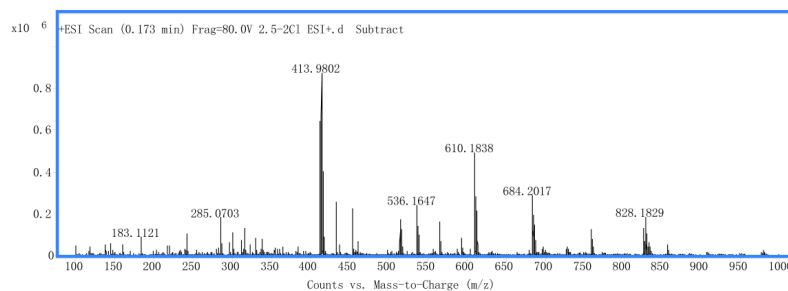
**Figure S18** HR-MS (ESI) spectrum of 3, 5-bis(4-bromo-benzyl)-4-piperidinone (4-Br)



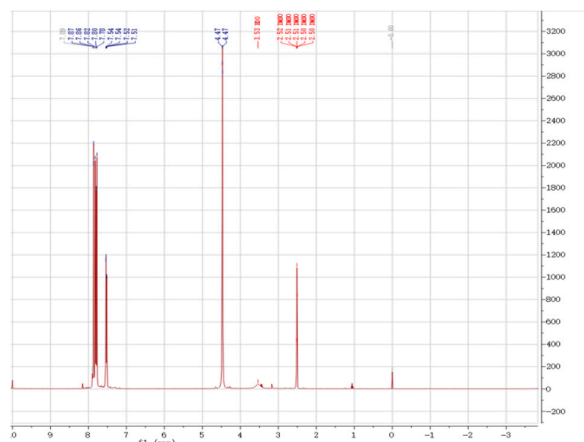
**Figure S19**  $^1\text{H}$ -NMR (400 MHz, DMSO- $d_6$ ) spectrum of 3, 5-bis(2, 5-dichlorobenzyl)-4-piperidone (2,5-2Cl)



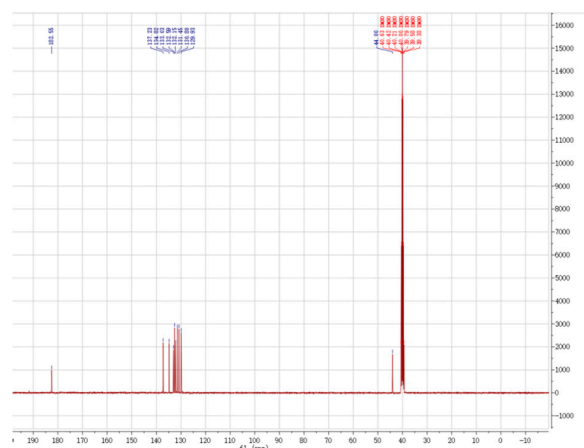
**Figure S20**  $^{13}\text{C}$ -NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of 3, 5-bis(2, 5-dichlorobenzyl)-4-piperidone (2,5-2Cl)



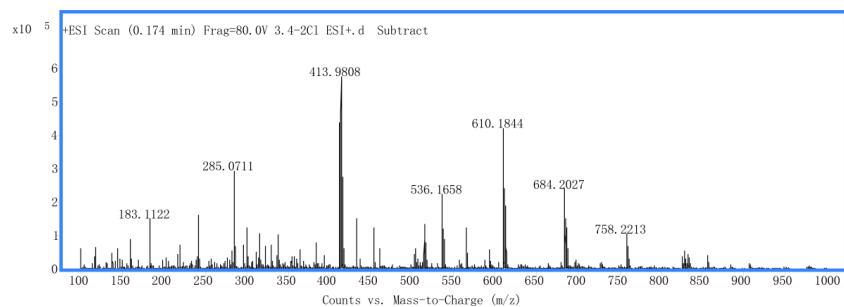
**Figure S21** HR-MS (ESI) spectrum of 3, 5-bis(2, 5-dichlorobenzyl)-4-piperidone (2,5-2Cl)



**Figure S22**  $^1\text{H}$ -NMR (400 MHz, DMSO- $d_6$ ) spectrum of 3, 5-bis(3, 4-dichlorobenzylidene)-4-piperidone (3,4-2Cl)

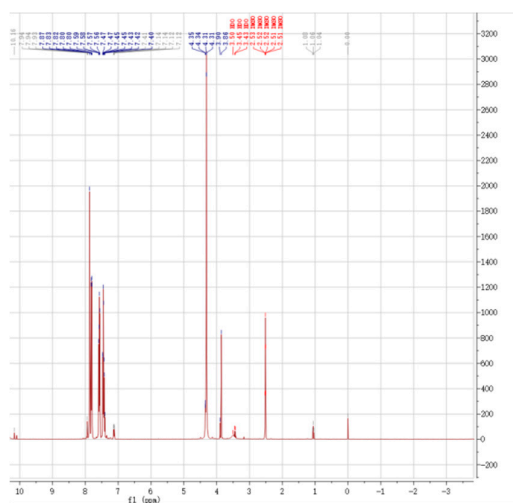


**Figure S23**  $^{13}\text{C}$ -NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of 3, 5-bis(3, 4-dichlorobenzylidene)-4-piperidone (3,4-2Cl)

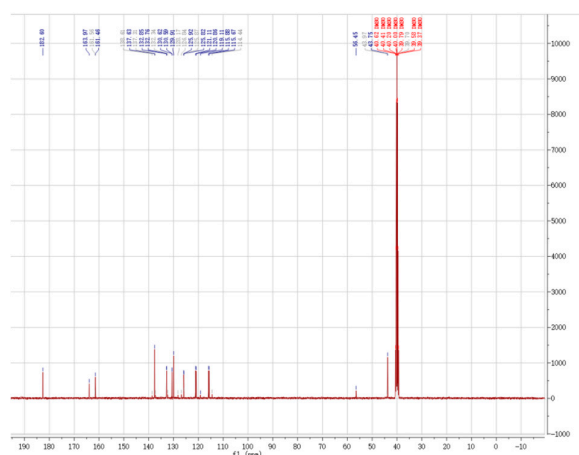


**Figure S24** HR-MS (ESI) spectrum of 3, 5-bis(3, 4-dichlorobenzylidene)-4-piperidone (3,4-2Cl)

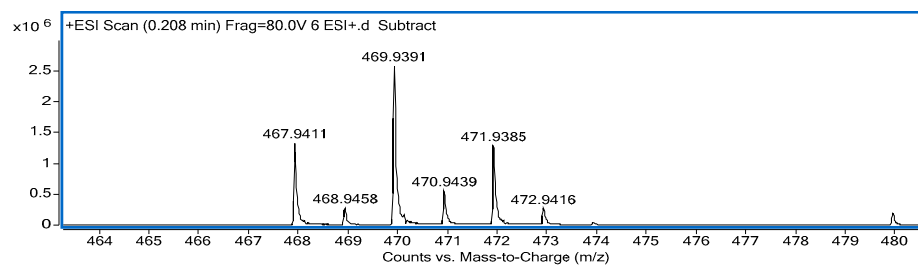




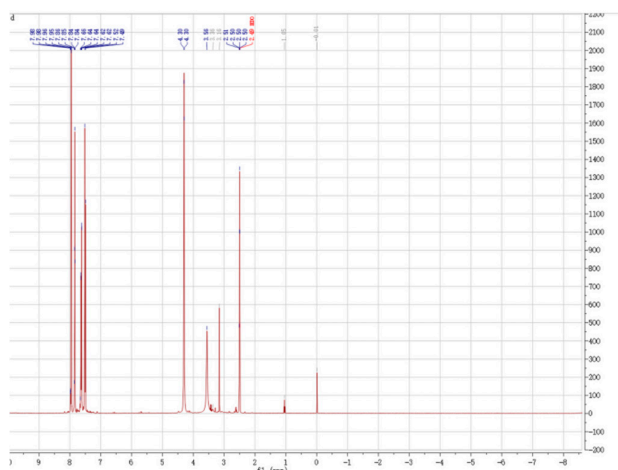
**Figure S25**  $^1\text{H}$ -NMR (400 MHz, DMSO- $d_6$ ) spectrum of 3, 5-bis(2-bromo-4-fluorobenzyl)-4-piperidone (2Br-4F)



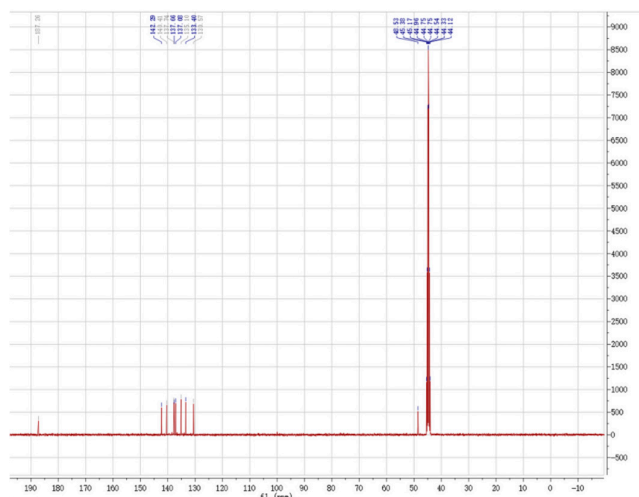
**Figure S26**  $^{13}\text{C}$ -NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of 3, 5-bis(2-bromo-4-fluorobenzyl)-4-piperidone (2Br-4F)



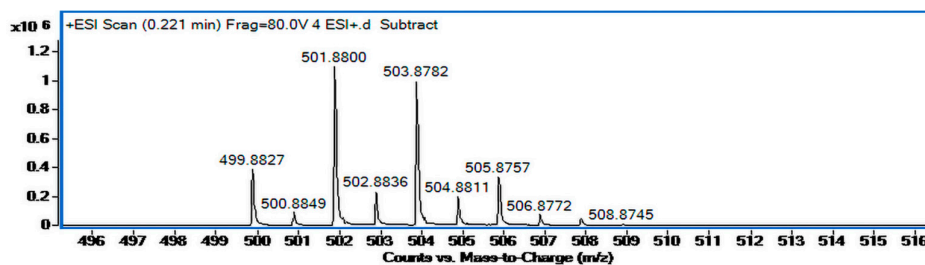
**Figure S27** HR-MS (ESI) spectrum of 3, 5-bis(2-bromo-4-fluorobenzyl)-4-piperidone (2Br-4F)



**Figure S28**  $^1\text{H}$ -NMR (400 MHz, DMSO- $d_6$ ) spectrum of 3, 5-bis(2-bromo-4-chlorobenzyl)-4-piperidone (2Br-4Cl)

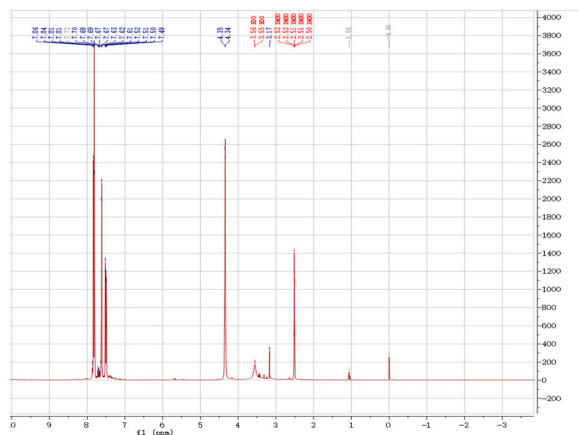


**Figure S29**  $^{13}\text{C}$ -NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of 3, 5-bis(2-bromo-4-chlorobenzyl)-4-piperidone (2Br-4Cl)

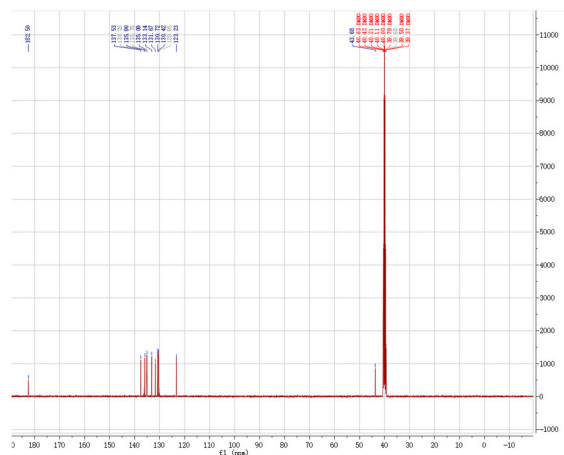


**Figure S30** HR-MS (ESI) spectrum of 3, 5-bis(2-bromo-4-chlorobenzyl)-4-piperidone

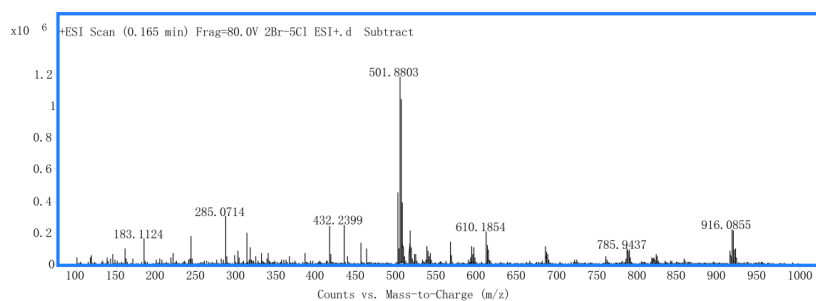
(2Br-4Cl)



**Figure S31**  $^1\text{H}$ -NMR (400 MHz, DMSO- $d_6$ ) spectrum of 3, 5-bis(2-bromo-5-chlorobenzyl)-4-piperidone (2Br-5Cl)

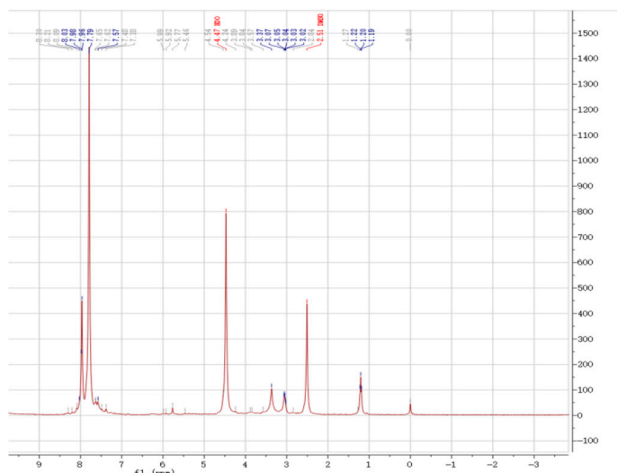


**Figure S32**  $^{13}\text{C}$ -NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of 3, 5-bis(2-bromo-5-chlorobenzyl)-4-piperidone (2Br-5Cl)

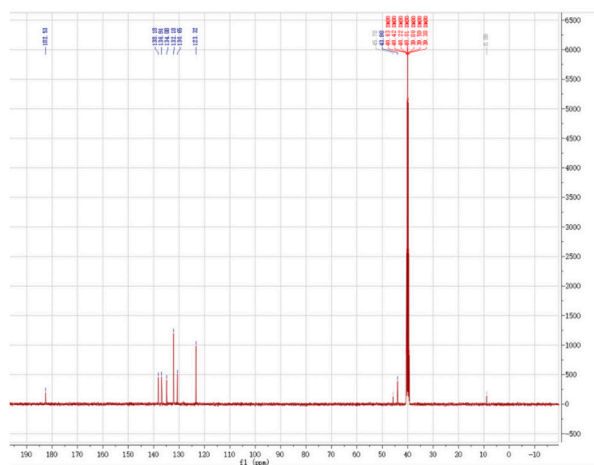


**Figure S33** 2Br-5Cl HR-MS (ESI) spectrum of 3, 5-bis(2-bromo-5-chlorobenzyl)-4-piperidone

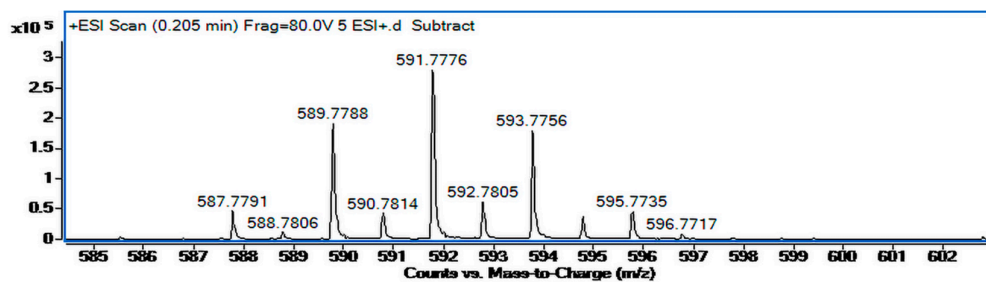
(2Br-5Cl)



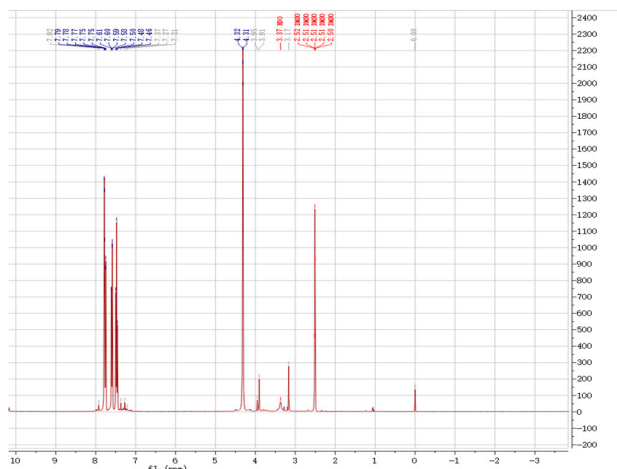
**Figure S34**  $^1\text{H}$ -NMR (400 MHz, DMSO- $d_6$ ) spectrum of 3, 5-bis(3, 5-dibromo-benzyl)-4-piperidone (3,5-2Br)



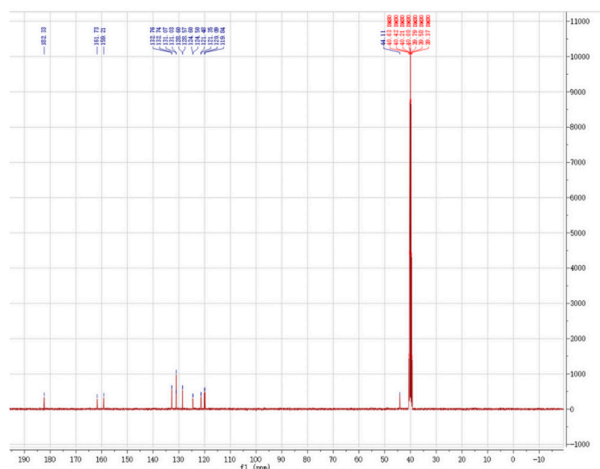
**Figure S35**  $^{13}\text{C}$ -NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of 3, 5-bis(3, 5-dibromo-benzyl)-4-piperidone (3,5-2Br)



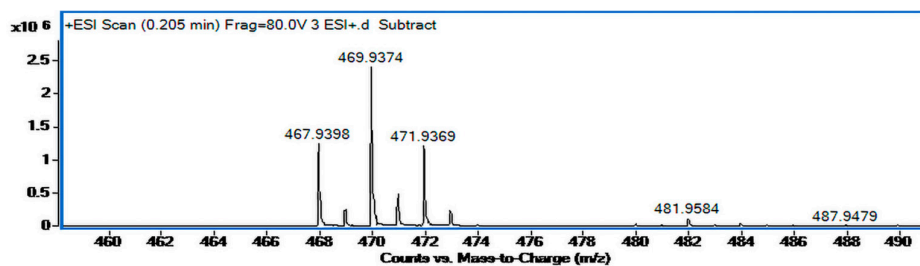
**Figure S36** HR-MS (ESI) spectrum of 3, 5-bis(3, 5-dibromo-benzyl)-4-piperidone (3,5-2Br)



**Figure S37**  $^1\text{H}$ -NMR (400 MHz, DMSO- $d_6$ ) spectrum of 3, 5-bis(4-bromo-2-fluorobenzyl)-4-piperidinone (4Br-2F)

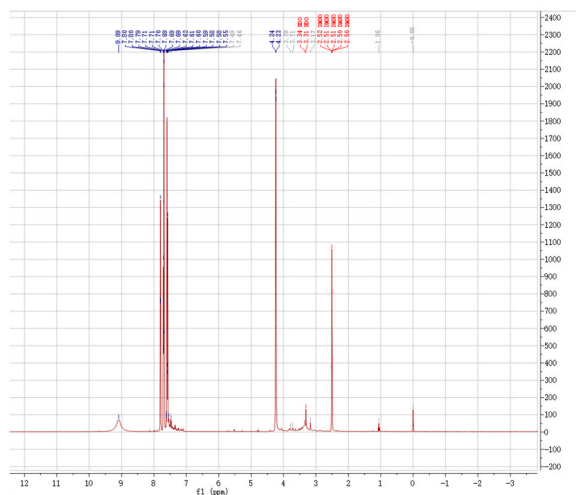


**Figure S38**  $^{13}\text{C}$ -NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of 3, 5-bis(4-bromo-2-fluorobenzyl)-4-piperidinone (4Br-2F)

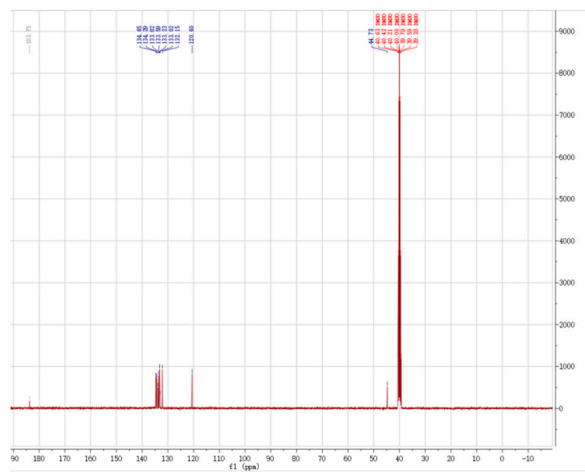


**Figure S39** HR-MS (ESI) spectrum of 3, 5-bis(4-bromo-2-fluorobenzyl)-4-piperidinone

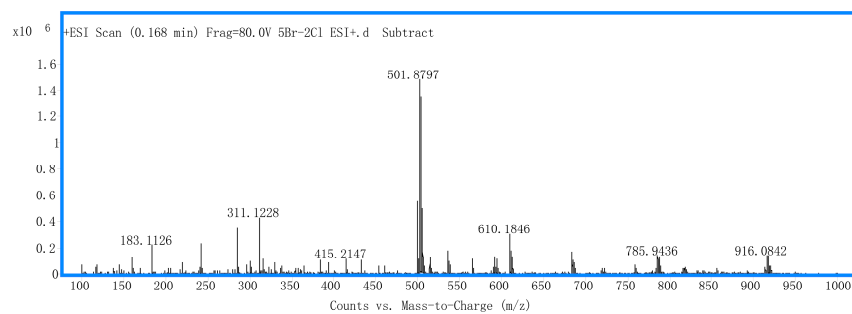
(4Br-2F)



**Figure S40**  $^1\text{H}$ -NMR (400 MHz, DMSO- $d_6$ ) spectrum of 3, 5-bis(5-bromo-2-chlorobenzyl)-4-piperidone (5Br-2Cl)



**Figure S41**  $^{13}\text{C}$ -NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of 3, 5-bis(5-bromo-2-chlorobenzyl)-4-piperidone (5Br-2Cl)



**Figure S42** HR-MS (ESI) spectrum of 3, 5-bis(5-bromo-2-chlorobenzyl)-4-piperidone (5Br-2Cl)