Appendix A Supplementary information

Phytochemical and Biological Investigation of *Jatropha pelargoniifolia* Root Native to the Kingdom of Saudi Arabia

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Figure S1: $^1$H NMR spectrum for compound 15 in CD$_3$OD (600 MHz)

Figure S2: $^{13}$C NMR spectrum for compound 15 in CD$_3$OD (125 MHz)
Figure S3: COSY spectrum for compound 15

Figure S4: HMBC spectrum for compound 15
Figure S5: $^1$HNMR spectrum for compound 18 in CD$_3$OD (700 MHz)

Figure S6: $^1$C NMR spectrum for compound 18 in CD$_3$OD (125 MHz)
Figure S7: HMBC spectrum for compound 18

Figure S8: HSQC spectrum for compound 18
Table S9: Analgesic effect of isolated compounds by using acetic acid-induced writhing in mice

| Treatments (n=6)                      | Dose (mg/kg) | Number of writhing in 20 min | % Inhibition |
|--------------------------------------|--------------|------------------------------|--------------|
| Control (20% acetic acid)            | 0.1 ml       | 36.00±1.15                   | -            |
| No-2                                  | 5            | 34.33±1.28                   | 4.62         |
| No-2                                  | 10           | 34.50±1.31                   | 4.16         |
| No-6                                  | 5            | 24.66±1.20                   | 31.48        |
| No-6                                  | 10           | 17.00±0.85                   | 52.77        |
| No-5                                  | 5            | 18.16±0.47                   | 49.53        |
| No-5                                  | 10           | 13.33±0.49                   | 62.96        |
| No-11                                 | 5            | 36.66±0.66                   | 1.85         |
| No-11                                 | 10           | 32.50±0.92                   | 9.72         |
| No-14                                 | 5            | 30.83±1.13                   | 14.35        |
| No-14                                 | 10           | 27.50±0.76                   | 23.61        |
| No-13                                 | 5            | 21.16±0.98                   | 41.20        |
| No-13                                 | 10           | 15.00±0.57                   | 58.33        |
| No-16                                 | 5            | 26.83±1.04                   | 25.46        |
| No-16                                 | 10           | 25.33±0.66                   | 29.62        |
| No-3                                  | 5            | 35.66±1.70                   |   •          |
| No-3                                  | 10           | 32.33±1.42                   | 10.18        |
| No-4                                  | 5            | 23.16±1.01                   | 35.64        |
| No-4                                  | 10           | 18.33±0.88                   | 49.07        |
| No-1                                  | 5            | 24.33±1.30                   | 32.40        |
| No-1                                  | 10           | 18.16±0.94                   | 49.53        |
| No-8                                  | 5            | 37.83±1.01                   |   •          |
| No-8                                  | 10           | 37.16±1.32                   |   •          |
| No-9                                  | 5            | 34.00±1.36                   | 5.55         |
| No-9                                  | 10           | 30.00±1.06                   | 16.16        |
| No-10                                 | 5            | 26.50±0.88                   | 26.38        |
| No-10                                 | 10           | 24.16±0.94                   | 32.87        |
| No-21                                 | 5            | 38.00±0.96                   |   •          |
| No-21                                 | 10           | 37.00±0.96                   |   •          |
| No-22                                 | 5            | 24.00±1.48                   | 33.33        |
| No-22                                 | 10           | 12.33±0.55                   | 65.74        |
| Indomethacin                          | 4            | 9.83±0.60                   | 72.68        |

All values represent mean ± SEM.*p<0.05, **p<0.01, ***p<0.001; ANOVA, followed by Dunnett's multiple comparison test, compounds and indomethacin groups compared with acetic acid groups
•% inhibition is very low or no effect
### Table S10: Analgesic effect of isolated compounds by using hot plate method in mice

| Treatments | Dose mg/kg | Reaction time (sec.) pre-drug | % Change | Reaction time (sec.) post-drug | % Change |
|------------|------------|--------------------------------|----------|--------------------------------|----------|
|            |            | 30 min.                        |          | 60 min.                        |          | 120 min. |          |
| No-2       | 5          | 7.16±0.30                      | 6.83±0.30 | 4.65                           | 7.66±0.33 | 6.97     | 7.66±0.33 | 6.97     |
| No-2       | 10         | 7.00±0.36                      | 7.83±0.30 | 9.30                           | 7.66±0.33 | 6.97     | 8.33±0.42* | 16.27    |
| No-6       | 5          | 8.00±0.36                      | 8.66±0.33 | 8.33                           | 10.16±0.30*** | 27.08 | 11.66±0.42*** | 45.83    |
| No-6       | 10         | 7.83±0.30                      | 11.00±0.36*** | 40.25                       | 12.66±0.33*** | 61.70 | 13.66±0.42*** | 74.46    |
| No-5       | 5          | 7.83±0.30                      | 9.33±0.49* | 19.14                         | 10.50±0.42*** | 30.04 | 11.33±0.33*** | 46.68    |
| No-5       | 10         | 7.66±0.49                      | 11.00±0.36*** | 40.25                       | 12.66±0.33*** | 61.70 | 13.00±0.26*** | 65.95    |
| No-11      | 5          | 7.83±0.30                      | 7.33±0.42 | •                             | 7.66±0.33 | •      | 8.33±0.33 | 6.33     |
| No-11      | 10         | 7.33±0.33                      | 8.00±0.36 | •                             | 7.83±0.30 | •      | 8.83±0.30* | 20.45    |
| No-14      | 5          | 7.50±0.42                      | 7.83±0.30 | 4.44                          | 8.16±0.30 | 8.88     | 9.16±0.47* | 22.22    |
| No-14      | 10         | 7.16±0.30                      | 7.83±0.30 | 9.30                          | 8.33±0.33 | 16.27   | 9.66±0.42*** | 34.88    |
| No-13      | 5          | 8.00±0.36                      | 9.33±0.33* | 16.66                         | 10.66±0.42*** | 33.33 | 11.00±0.36*** | 37.50    |
| No-13      | 10         | 7.83±0.30                      | 11.00±0.36*** | 40.25                       | 11.66±0.42*** | 48.93 | 12.50±0.61*** | 59.57    |
| No-16      | 5          | 7.16±0.30                      | 8.00±0.36 | 11.62                         | 9.00±0.36** | 25.58 | 10.16±0.30*** | 41.86    |
| No-16      | 10         | 7.16±0.30                      | 8.66±0.42* | 20.93                         | 10.83±0.40*** | 51.16 | 11.00±0.36*** | 53.48    |
| No-3       | 5          | 7.00±0.36                      | 7.33±0.33 | 4.76                          | 7.16±0.30 | 2.38    | 8.33±0.42* | 19.04    |
| No-3       | 10         | 7.00±0.36                      | 7.33±0.33 | 4.76                          | 7.83±0.30 | 11.90   | 9.00±0.36** | 28.57    |
| No-4       | 5          | 7.16±0.30                      | 7.66±0.33 | 6.97                          | 8.50±0.42* | 18.60 | 9.83±0.47*** | 37.20    |
| No-4       | 10         | 7.50±0.42                      | 10.00±0.57** | 33.33                      | 10.50±0.42*** | 40.00 | 13.00±0.36*** | 73.35    |
| No-1       | 5          | 7.66±0.33                      | 7.50±0.42 | •                             | 7.66±0.33 | •      | 8.00±0.44 | 4.34     |
| No-1       | 10         | 7.50±0.42                      | 7.66±0.49 | 2.22                          | 7.83±0.40 | 4.44    | 8.33±0.49 | 11.11    |
| No-8       | 5          | 7.00±0.36                      | 7.33±0.33 | 4.76                          | 7.50±0.42 | 7.14    | 8.16±0.40 | 16.16    |
| No-8       | 10         | 7.16±0.30                      | 7.66±0.49 | 6.97                          | 8.16±0.30* | 13.95 | 9.00±0.36** | 25.58    |
| No-9       | 5          | 6.83±0.30                      | 7.00±0.36 | 2.43                          | 7.83±0.30* | 14.63 | 8.16±0.40* | 19.51    |
| No-9       | 10         | 7.66±0.33                      | 7.83±0.30 | 2.17                          | 8.66±0.42* | 13.04 | 9.83±0.47** | 28.26    |
| No-10      | 5          | 7.16±0.30                      | 8.00±0.25 | 11.62                         | 8.66±0.42* | 20.93 | 10.16±0.30*** | 41.86    |
| No-10      | 10         | 7.00±0.36                      | 9.00±0.25** | 28.57                         | 10.50±0.34*** | 50.00 | 12.33±0.49*** | 76.19    |
| No-21      | 5          | 6.83±0.30                      | 7.00±0.36 | 2.43                          | 7.16±0.30 | 4.87    | 8.00±0.36 | 17.07    |
| No-21      | 10         | 7.00±0.36                      | 7.66±0.33 | 8.52                          | 7.50±0.42 | 7.14    | 7.83±0.40 | 11.90    |
| No-22      | 5          | 7.00±0.36                      | 7.83±0.30 | 11.90                         | 8.66±0.42* | 23.89 | 10.33±0.42*** | 47.61    |
| No-22      | 10         | 7.00±0.36                      | 8.50±0.34* | 21.42                         | 9.16±0.40* | 30.95 | 12.50±0.42*** | 78.57    |
| Indomethacin | 4          | 7.16±0.30                      | 10.16±0.30*** | 41.86                      | 12.83±0.40*** | 79.06 | 14.66±0.33*** | 104.65   |

All values represent mean ± SEM. *p<0.05, **p<0.01, ***p<0.001; ANOVA, followed by Dunnett's multiple comparison test, post-drug compared with pre-drug group.

•% inhibition is very low or no effect.
Table S11: Analgesic effect of isolated Compounds by using tail flick method in mice

| Treatments | Dose mg/kg | Reaction time (s) pre-drug | | Reaction time (s) post-drug |
|------------|------------|-----------------------------|-----------------|-----------------------------|
|            |            | 30 min.                     | Change          | 60 min.                     | Change          | 120 min.                    | Change          |
|            |            | %                           |                  | %                           |                  | %                           |                  |
| No-2       | 5          | 5.20±0.19                   | 5.11±0.18       | 5.30±0.23                   | •               | 5.16±0.12                   | •               |
| No-2       | 10         | 5.10±0.27                   | 5.13±0.12       | 5.28±0.20                   | 5.08±0.08       | No                         | No             |
| No-6       | 5          | 5.15±0.13                   | 5.45±0.13       | 5.88±0.13                   | 14.23           | 5.96±0.15                   | 15.85           |
| No-6       | 10         | 5.41±0.16                   | 5.98±0.10       | 10.45                       | 6.70±0.10       | 23.69                       | 7.60±0.37       | 40.30           |
| No-5       | 5          | 4.93±0.13                   | 6.06±0.07       | 22.97                       | 6.48±0.16       | 31.41                       | 7.00±0.09       | 41.89           |
| No-5       | 10         | 5.28±0.12                   | 6.78±0.11       | 28.39                       | 7.33±0.15       | 38.80                       | 7.85±0.17       | 45.58           |
| No-11      | 5          | 5.20±0.15                   | 5.01±0.13       | •                           | 5.11±0.10       | •                           | 5.25±0.09       | •               |
| No-11      | 10         | 5.25±0.19                   | 5.11±0.13       | •                           | 5.05±0.11       | •                           | 5.26±0.11       | •               |
| No-14      | 5          | 4.93±0.12                   | 4.86±0.08       | •                           | 4.98±0.08       | •                           | 5.18±0.11       | •               |
| No-14      | 10         | 5.05±0.13                   | 5.13±0.14       | •                           | 5.38±0.11       | 6.60                        | 5.76±0.18       | 14.19           |
| No-13      | 5          | 4.96±0.11                   | 5.30±0.10       | 6.71                        | 6.15±0.11       | 23.82                       | 6.53±0.18       | 31.54           |
| No-13      | 10         | 5.15±0.10                   | 6.01±0.16       | 16.82                       | 6.95±0.19       | 34.95                       | 7.93±0.14       | 54.04           |
| No-16      | 5          | 5.21±0.13                   | 5.96±0.12       | 14.37                       | 7.26±0.56       | 39.55                       | 7.00±0.23       | 34.18           |
| No-16      | 10         | 5.10±0.11                   | 6.80±0.14       | 33.33                       | 7.25±0.13       | 42.15                       | 7.83±0.17       | 53.59           |
| No-3       | 5          | 5.10±0.12                   | 5.13±0.10       | •                           | 5.35±0.15       | 4.90                        | 5.76±0.14       | 13.07           |
| No-3       | 10         | 5.06±0.14                   | 5.46±0.21       | 7.89                        | 5.41±0.18       | 6.90                        | 6.10±0.12       | 20.39           |
| No-4       | 5          | 5.11±0.09                   | 6.01±0.20       | 17.58                       | 6.63±0.17       | 29.64                       | 7.18±0.14       | 40.39           |
| No-4       | 10         | 5.26±0.19                   | 6.70±0.26       | 27.21                       | 7.68±0.15       | 45.88                       | 8.30±0.23       | 57.59           |
| No-1       | 5          | 4.83±0.25                   | 6.03±0.13       | 28.82                       | 6.31±0.15       | 30.68                       | 7.00±0.09       | 44.82           |
| No-1       | 10         | 5.08±0.12                   | 7.21±0.14       | 41.96                       | 7.86±0.17       | 54.75                       | 8.50±0.26       | 67.21           |
| No-8       | 5          | 4.86±0.12                   | 5.08±0.11       | 4.45                        | 5.36±0.13       | 10.27                       | 5.50±0.16       | 13.01           |
| No-8       | 10         | 5.15±0.19                   | 5.16±0.09       | •                           | 5.41±0.12       | 5.17                        | 5.75±0.09       | 11.65           |
| No-9       | 5          | 4.98±0.14                   | 5.16±0.14       | 3.67                        | 5.30±0.10       | 6.35                        | 5.85±0.12       | 17.39           |
| No-9       | 10         | 5.51±0.17                   | 5.86±0.11       | 6.34                        | 6.05±0.12       | 9.66                        | 6.11±0.09       | 10.87           |
| No-10      | 5          | 5.05±0.13                   | 5.88±0.15       | 16.50                       | 6.68±0.11       | 32.34                       | 7.10±0.08       | 40.59           |
| No-10      | 10         | 5.10±0.14                   | 6.73±0.16       | 32.02                       | 7.15±0.25       | 40.19                       | 8.18±0.11       | 60.45           |
| No-21      | 5          | 5.03±0.25                   | 5.18±0.18       | 2.98                        | 5.26±0.14       | 4.63                        | 5.15±0.18       | 9.60            |
| No-21      | 10         | 5.13±0.13                   | 5.23±0.12       | •                           | 5.96±0.08       | 16.23                       | 6.25±0.08       | 21.75           |
| No-22      | 5          | 5.46±0.19                   | 6.63±0.28       | 21.34                       | 7.00±0.25       | 28.04                       | 7.56±0.12       | 38.10           |
| No-22      | 10         | 5.05±0.14                   | 7.06±0.24       | 39.93                       | 7.98±0.10       | 58.08                       | 8.45±0.16       | 67.32           |
| Indomethacin | 4         | 5.31±0.15                   | 7.65±0.24       | 43.48                       | 8.05±0.25       | 51.41                       | 10.40±0.42       | 95.61           |

All values represent mean ± SEM.*p<0.05, **p<0.01, ***p<0.001; ANOVA, followed by Dunnett's multiple comparison test, the post-drug group was compared with the pre-drug group
•% inhibition is very low or no effect
Table S12: Effect of isolated compounds on carrageenan-induced paw edema in albino rats

| Treatments        | Dose mg/kg | Before carrageenan | 3 h after carrageenan | Net | % Inhibition |
|-------------------|------------|--------------------|-----------------------|-----|--------------|
| Only carrageenan  | 0.2 ml     | 1.06±0.02          | 1.66±0.01***          | 0.60±0.007 | -            |
| No-2              | 5          | 1.06±0.02          | 1.67±0.0***           | 0.60±0.008 | •            |
| No-2              | 10         | 1.05±0.02          | 1.64±0.01***          | 0.59±0.04 | •            |
| No-6              | 5          | 1.08±0.02          | 1.48±0.02***          | 0.39±0.009*** | 33.97     |
| No-6              | 10         | 1.07±0.02          | 1.36±0.02***          | 0.29±0.01*** | 51.10     |
| No-5              | 5          | 1.08±0.02          | 1.48±0.02***          | 0.32±0.02*** | 45.85     |
| No-5              | 10         | 1.07±0.01          | 1.36±0.02***          | 0.29±0.01*** | 51.38     |
| No-11             | 5          | 1.04±0.02          | 1.65±0.01***          | 0.60±0.02 | •            |
| No-11             | 10         | 1.07±0.02          | 1.67±0.01***          | 0.60±0.001 | •            |
| No-14             | 5          | 1.10±0.01          | 1.66±0.02***          | 0.56±0.02 | 6.35        |
| No-14             | 10         | 1.09±0.007         | 1.64±0.01***          | 0.54±0.02* | 10.22     |
| No-13             | 5          | 1.06±0.02          | 1.50±0.02***          | 0.44±0.02*** | 26.51     |
| No-13             | 10         | 1.02±0.03          | 1.33±0.03***          | 0.31±0.009*** | 48.61     |
| No-16             | 5          | 1.06±0.002         | 1.50±0.002***         | 0.31±0.003*** | 47.23     |
| No-16             | 10         | 1.02±0.03          | 1.33±0.03***          | 0.27±0.007*** | 55.24     |
| No-3              | 5          | 1.09±0.008         | 1.59±0.01***          | 0.56±0.01* | 7.18       |
| No-3              | 10         | 1.04±0.03          | 1.56±0.02***          | 0.52±0.02** | 13.53     |
| No-4              | 5          | 1.07±0.02          | 1.60±0.02***          | 0.52±0.01** | 13.53     |
| No-4              | 10         | 1.08±0.01          | 1.41±0.01***          | 0.30±0.004*** | 49.17     |
| No-1              | 5          | 1.05±0.03          | 1.54±0.02***          | 0.49±0.04* | 17.95      |
| No-1              | 10         | 1.09±0.01          | 1.36±0.01***          | 0.27±0.009*** | 54.94     |
| No-8              | 5          | 1.09±0.009         | 1.68±0.001***         | 0.59±0.01 | 2.20       |
| No-8              | 10         | 1.13±0.01          | 1.65±0.02***          | 0.52±0.03* | 12.98     |
| No-9              | 5          | 1.04±0.02          | 1.61±0.01***          | 0.57±0.01 | 5.52       |
| No-9              | 10         | 1.08±0.02          | 1.62±0.01***          | 0.54±0.01** | 10.22     |
| No-10             | 5          | 1.00±0.03          | 1.48±0.01***          | 0.48±0.03** | 20.44     |
| No-10             | 10         | 1.10±0.006         | 1.31±0.01***          | 0.21±0.01*** | 64.91     |
| No-21             | 5          | 1.09±0.03          | 1.66±0.009***         | 0.56±0.01* | 6.35       |
| No-21             | 10         | 1.06±0.02          | 1.62±0.02***          | 0.55±0.01* | 8.01       |
| No-22             | 5          | 1.10±0.007         | 1.43±0.02***          | 0.33±0.007*** | 44.47     |
| No-22             | 10         | 1.08±0.01          | 1.38±0.009***         | 0.30±0.008*** | 50.27     |
| Phenylbutazone    | 100        | 1.03±0.02          | 1.22±0.02***          | 0.18±0.007*** | 69.06     |

All values represent mean ± SEM.*p<0.05, **p<0.01, ***p<0.001; ANOVA, followed by Dunnett's multiple comparison test. The compound and phenylbutazone groups were compared with the carrageenan groups.
•% inhibition is very low or no effect.
Table S13: Effect of isolated compounds on yeast-induced hyperthermia in mice

| Treatments | Dose mg/kg | Normal rectal temperature | Rectal temperature after yeast administration 20 ml/kg of 20% | Rectal temperature after drug administration 20 ml/kg of 20% |
|------------|------------|----------------------------|---------------------------------------------------------------|---------------------------------------------------------------|
|            |            |                            | 30 min                          | 60 min                          | 120 min                                                      |
| No-2       | 5          | 35.06±0.12                 | 38.83±0.10***                   | 38.80±0.12                     | 38.73±0.14                                                  |
| No-2       | 10         | 35.16±0.12                 | 38.65±0.12***                   | 38.51±0.15                     | 38.45±0.13                                                  |
| No-6       | 5          | 35.20±0.11                 | 38.76±0.14***                   | 38.25±0.08*                    | 38.26±0.12                                                  | 37.78±0.11*** |
| No-6       | 10         | 35.16±0.10                 | 38.81±0.12***                   | 37.91±0.11***                   | 37.56±0.17***                                               | 36.98±0.15*** |
| No-5       | 5          | 35.53±0.11                 | 38.88±0.10***                   | 38.33±0.05***                   | 37.93±0.07***                                               | 37.81±0.16*** |
| No-5       | 10         | 35.33±0.11                 | 38.78±0.19***                   | 37.91±0.16***                   | 37.40±0.17***                                               | 37.00±0.09*** |
| No-11      | 5          | 35.38±0.08                 | 38.85±0.16***                   | 38.71±0.18                     | 38.68±0.11                                                  | 38.56±0.16*** |
| No-11      | 10         | 35.28±0.08                 | 38.70±0.11***                   | 38.60±0.12                     | 38.53±0.13                                                  | 38.25±0.09*** |
| No-14      | 5          | 35.40±0.16                 | 38.81±0.12***                   | 38.68±0.15                     | 38.61±0.15                                                  | 38.43±0.13*** |
| No-14      | 10         | 35.93±0.58                 | 38.96±0.12***                   | 38.81±0.11                     | 38.56±0.11                                                  | 38.43±0.12*** |
| No-13      | 5          | 35.53±0.10                 | 38.70±0.16***                   | 38.41±0.15                     | 37.96±0.12***                                               | 37.36±0.12*** |
| No-13      | 10         | 35.56±0.12                 | 38.85±0.11***                   | 37.90±0.09***                   | 37.28±0.10***                                               | 37.03±0.09*** |
| No-16      | 5          | 35.35±0.11                 | 38.75±0.21***                   | 38.21±0.07*                    | 37.90±0.09***                                               | 37.58±0.016*** |
| No-16      | 10         | 35.38±0.18                 | 38.80±0.20***                   | 37.83±0.12***                   | 37.11±0.09***                                               | 36.83±0.10*** |
| No-3       | 5          | 35.65±0.11                 | 38.93±0.13***                   | 38.93±0.15                     | 38.80±0.13                                                  | 38.66±0.11*** |
| No-3       | 10         | 35.71±0.11                 | 38.88±0.13***                   | 38.73±0.13                     | 38.51±0.07*                                                 | 38.60±0.14*** |
| No-4       | 5          | 35.83±0.12                 | 38.90±0.08***                   | 38.91±0.12                     | 38.60±0.11                                                  | 38.48±0.14*** |
| No-4       | 10         | 35.76±0.13                 | 38.91±0.07***                   | 38.88±0.14                     | 38.36±0.11**                                                | 38.31±0.11** |
| No-1       | 5          | 35.66±0.08                 | 38.88±0.13***                   | 38.28±0.09**                   | 37.98±0.15**                                                | 37.43±0.15*** |
| No-1       | 10         | 35.55±0.16                 | 38.88±0.11***                   | 38.13±0.13                     | 37.58±0.17**                                                | 37.06±0.17*** |
| No-8       | 5          | 35.56±0.23                 | 38.88±0.11***                   | 38.80±0.13                     | 37.87±0.13                                                  | 38.65±0.11*** |
| No-8       | 10         | 35.61±0.18                 | 38.75±0.15***                   | 38.53±0.14                     | 38.61±0.11                                                  | 38.30±0.18*** |
| No-9       | 5          | 35.66±0.12                 | 38.76±0.16***                   | 38.75±0.11                     | 38.61±0.13                                                  | 38.30±0.10*** |
| No-9       | 10         | 35.60±0.12                 | 38.81±0.12***                   | 38.76±0.11                     | 38.63±0.13                                                  | 38.00±0.09*** |
| No-10      | 5          | 35.83±0.09                 | 38.86±0.14***                   | 38.31±0.09*                    | 37.81±0.13**                                                | 37.26±0.09*** |
| No-10      | 10         | 35.78±0.12                 | 38.85±0.15***                   | 37.83±0.11***                   | 37.40±0.17***                                               | 37.13±0.18*** |
| No-21      | 5          | 35.63±0.16                 | 38.85±0.13***                   | 38.85±0.12                     | 38.71±0.11                                                  | 38.53±0.12*** |
| No-21      | 10         | 35.68±0.17                 | 38.86±0.17***                   | 38.66±0.12                     | 38.45±0.14                                                  | 38.20±0.12*** |
| No-22      | 5          | 35.70±0.11                 | 38.81±0.11***                   | 38.10±0.10***                   | 37.80±0.15***                                               | 37.20±0.11*** |
| No-22      | 10         | 35.75±0.09                 | 38.86±0.12***                   | 38.23±0.10***                   | 37.11±0.10***                                               | 36.73±0.13*** |
| Indomethacin | 4         | 35.71±0.18                 | 38.95±0.10***                   | 37.10±0.09***                   | 36.85±0.18***                                               | 36.33±0.11*** |

All values represent mean ± SEM. *p<0.05, **<0.01, ***p<0.001; ANOVA, followed by Dunnett’s multiple comparison test. The pre-drug group was compared with the normal group, and the post-drug group was compared with the yeast administration groups.
Table S14: % Inhibition of nitric oxide scavenging activity for isolated compounds at different concentrations

| Treatments       | (% Inhibition ± SD) | Concentration |
|------------------|---------------------|---------------|
|                  | 20 µg/ml           | 40 µg/ml      |
|                  | 60 µg/ml           | 80 µg/ml      |
|                  | 100 µg/ml          |               |
| Compound-2       | 30.15±14.36        | 54.43±3.14    |
|                  | 63.96±10.70        | 71.60±10.48   |
|                  | 76.83±5.01         |               |
| Compound-6       | 10.56±5.34         | 23.09±3.04    |
|                  | 33.50±8.52         | 50.03±4.00    |
|                  | 56.54±6.03         |               |
| Compound-5       | 5.16±2.48          | 10.43±3.25    |
|                  | 19.36±8.72         | 21.63±10.28   |
|                  | 27.00±7.85         |               |
| Compound-11      | 7.40±4.56          | 20.06±8.58    |
|                  | 36.71±16.53        | 50.50±10.21   |
|                  | 57.00±10.21        |               |
| Compound-14      | 17.86±15.85        | 28.10±22.28   |
|                  | 42.40±23.65        | 59.16±14.84   |
|                  | 70.36±14.73        |               |
| Compound-13      | 10.40±6.32         | 14.16±4.35    |
|                  | 25.61±5.18         | 30.04±3.35    |
|                  | 33.06±1.86         |               |
| Compound-16      | 6.66±2.10          | 11.26±0.28    |
|                  | 19.20±6.40         | 21.86±5.35    |
|                  | 25.61±5.18         |               |
| Compound-3       | 7.40±4.56          | 12.63±5.43    |
|                  | 19.43±6.21         | 28.46±12.00   |
|                  | 38.30±5.63         |               |
| Compound-4       | 23.86±8.91         | 41.43±7.77    |
|                  | 48.16±7.16         | 66.03±8.24    |
|                  | 77.36±4.22         |               |
| Compound-1       | 11.46±5.00         | 27.90±0.45    |
|                  | 44.30±6.76         | 61.53±2.56    |
|                  | 71.66±0.70         |               |
| Compound-8       | 7.50±1.55          | 15.75±0.44    |
|                  | 42.61±10.72        | 50.17±9.22    |
|                  | 63.67±12.85        |               |
| Compound-9       | 15.06±7.50         | 29.30±2.98    |
|                  | 38.27±2.98         | 50.43±7.23    |
|                  | 63.67±12.85        |               |
| Compound-10      | 33.31±19.72        | 45.38±20.11   |
|                  | 56.55±9.42         | 64.73±4.35    |
|                  | 75.26±5.54         |               |
| Compound-21      | 39.97±7.66         | 54.97±6.68    |
|                  | 61.70±2.95         | 63.18±1.66    |
|                  | 67.76±5.75         |               |
| Compound-22      | 23.86±8.91         | 41.43±7.77    |
|                  | 48.16±7.16         | 66.03±8.24    |
|                  | 77.60±4.22         |               |
| Ascorbic Acid    | 64.38±15.47        | 66.64±15.42   |
|                  | 78.13±3.22         | 85.68±1.69    |
|                  | 87.23±0.98         |               |

The statistical significant was calculated from one-way ANOVA, and all parameters are expressed as mean ± SD of three independent measurements.