

## Additional file 1

Comparisons on the adopted wavelet-based and classic LASSO methods with diverse predictors, and the optimal methods are marked out with red color, respectively.

|              | Wavelet function | AUC at 3 years | AUC at 5 years | Predictors |
|--------------|------------------|----------------|----------------|------------|
| <b>db</b>    | db2              | 0.799          | 0.937          | 5          |
|              | db3              | 0.799          | 0.937          | 5          |
|              | db4              | 0.799          | 0.937          | 5          |
|              | db5              | 0.799          | 0.937          | 5          |
|              | db6              | 0.799          | 0.937          | 5          |
|              | db7              | 0.760          | 0.822          | 4          |
|              | db8              | 0.760          | 0.822          | 4          |
| <b>bior</b>  | bior1.1          | 0.806          | 0.918          | 6          |
|              | bior1.3          | 0.806          | 0.918          | 6          |
|              | bior1.5          | 0.830          | 0.913          | 10         |
|              | bior2.2          | 0.806          | 0.918          | 6          |
|              | bior2.4          | 0.806          | 0.918          | 6          |
|              | bior2.6          | 0.843          | 0.911          | 9          |
|              | bior2.8          | 0.843          | 0.911          | 9          |
|              | bior3.1          | 0.864          | 0.704          | 3          |
|              | bior3.3          | 0.851          | 0.864          | 13         |
|              | bior3.5          | 0.843          | 0.911          | 9          |
|              | bior3.7          | 0.843          | 0.911          | 9          |
|              | bior3.9          | 0.843          | 0.911          | 9          |
|              | bior4.4          | 0.806          | 0.918          | 6          |
|              | bior5.5          | 0.806          | 0.918          | 6          |
|              | bior6.8          | 0.830          | 0.913          | 10         |
| <b>sym</b>   | sym2             | 0.872          | 0.899          | 14         |
|              | sym3             | 0.802          | 0.787          | 12         |
|              | sym4             | 0.849          | 0.848          | 13         |
|              | sym5             | 0.819          | 0.781          | 4          |
|              | sym6             | 0.667          | 0.714          | 3          |
|              | sym7             | 0.829          | 0.748          | 2          |
|              | sym8             | 0.758          | 0.704          | 2          |
| <b>coif</b>  | coif2            | 0.798          | 0.916          | 4          |
|              | coif3            | 0.798          | 0.916          | 4          |
|              | coif4            | 0.797          | 0.867          | 5          |
|              | coif5            | 0.797          | 0.867          | 5          |
| <b>LASSO</b> |                  | 0.766          | 0.895          | 11         |