The calculation data are sorted out as in Table 7. For multi-objective optimization problems, the objective optimization functions restrict each other, making it impossible to derive the absolute optimal solution. The effective solutions can only be obtained according to different objectives in the feasible solution set. This is to allocate the job-shop resources reasonably, so that the processing time and processing cost of the tasks can reach a relative balance. The optimal Gantt charts of job processing time and production cost are drawn respectively in the ten test results, as shown in Figures 7 and 8.

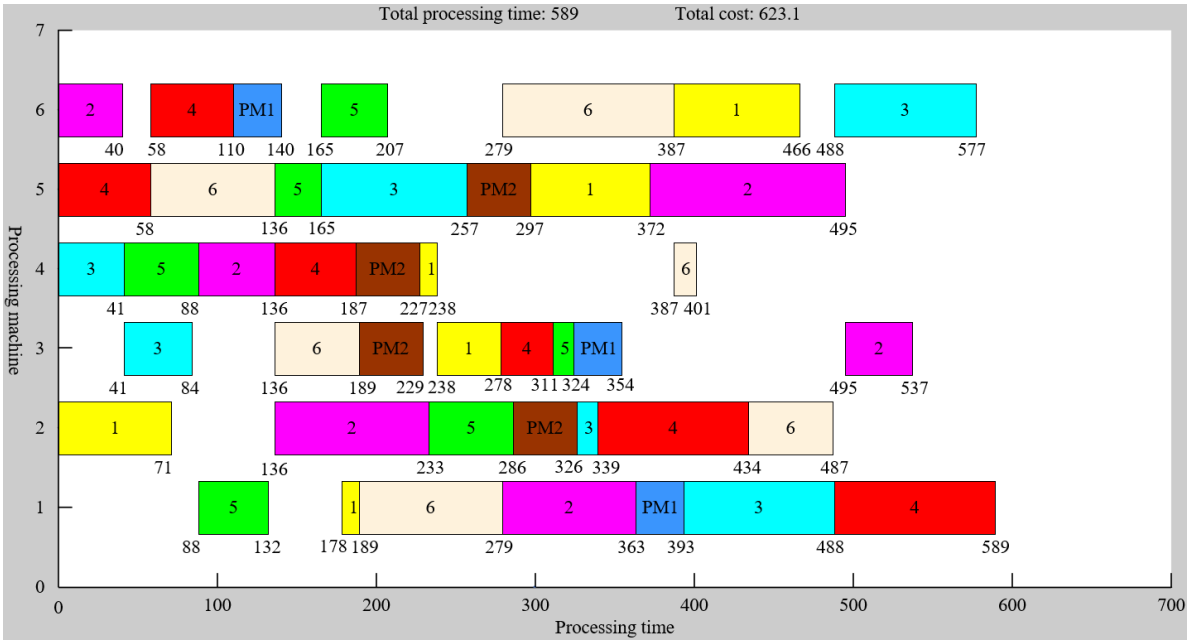

Figure 7. Optimal Gantt chart of job processing time

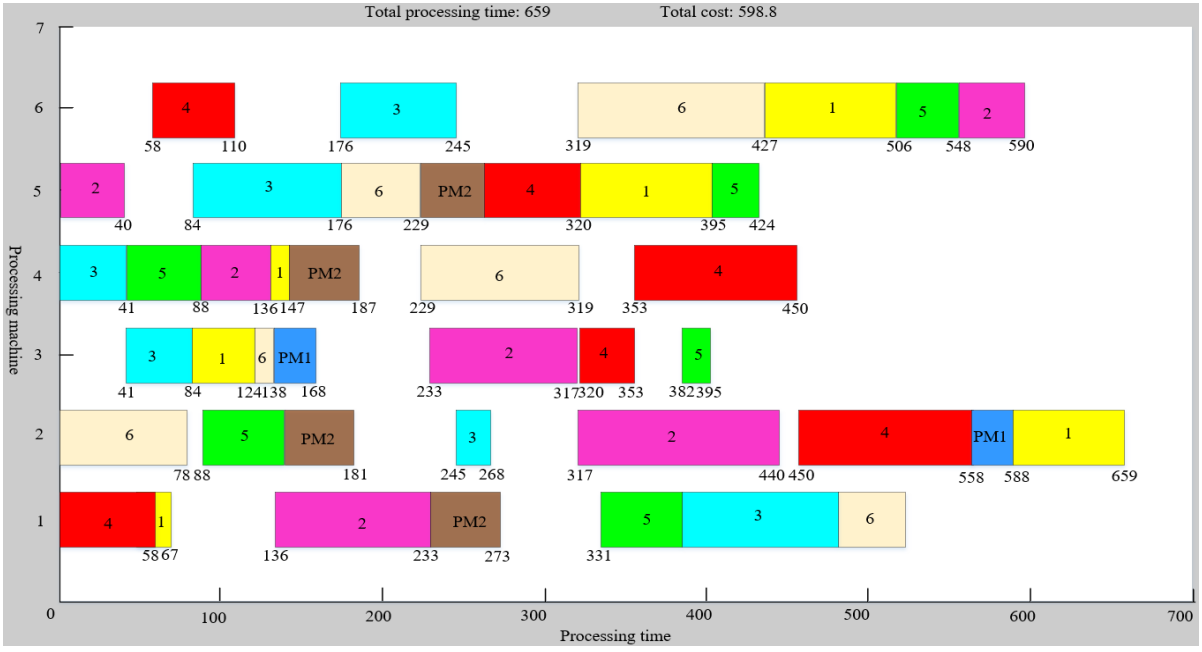

Figure 8. Optimal Gantt chart of processing cost

It can be seen from the experimental data that the ideal and optimal result does not exist under the interaction between the processing time and the total processing cost. When the machining time is short, the processing cost of the machine is low, but it may result in a high early/late delivery penalty, which increases the cost. When the processing time is long, the penalty costs should be minimized, but the idle time of the machine will be too long, resulting in a waste of resources. Each solution constrains each other between effective values and achieves a relative balance. Therefore, the solutions in the solution set are effective and have a certain reference value.