The weights in fuzzy synthetic evaluation model has a direct impact on the range of the drones we choose. To avoid the contingency for some unknown reasons, we got another set of weights through factor analysis model. We can get the contribution of each divisor so we calculate the rate of contribution as the weights. In this model, we set all these three properties as the principal divisor to purchase the best objectivity. As the result, these weights are [0.27 0.36 0.37]. Then we test the result using these weights in fuzzy synthetic evaluation model.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Weights\rates | **1** | **2** | **3** | 4 | 5 | 6 | 7 |
| (0.27,0.23,0.50) | **C** | **B** | **F** | A | G | E | D |
| (0.27,0.36,0.37) | **F** | **C** | **B** | G | E | A | D |

We can find the change of weights dose affect the result but the top three drones are still B、C and F. What’s more, the drone C are still better than drone B when delivering the medicine if the distance is not too long. So, the change of this rate will not affect our plan for delivering, which shows that these drones’ performances are excellent enough to withstand the change of weights and our plan for choosing these three drones are reasonable. This shows that our model has good stability and strong adaptability.