

control and irradiated samples which show no absorbance change rules. But at 273 nm, blue shift in irradiated samples are observed from 500 to 1250 Gy, which may related to the degree of materials association in the liquor aging process^[3].

References

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3 - 61 Study on UV-visible Absorption Spectrum of Different Years Liquor

Zhang Miaomiao, Lu Dong, Cao Guozhen and Li Wenjian

We have scanned different years liquor in 200~400 nm spectral curve by spectrophotometer. According to the UV-visible absorption spectra, we chosen 280~300 nm absorption to analysis curve similarity. Similarity results shows in Table. 1. The highest similarity value (0.966) comes from one year and 8 years liquor, which means one year liquor's style is similar to 8 years liquor.

Compared with one year and 6 years liquor, the lowest value (0.814) comes, which means the great difference between these two samples. Other years liquor were follow the same regulation.

| Table 1 | The similarities of different years liquor | | | | |
|------------|--|-------|-------|-------|-------|
| Similarity | 1 | 2 | 4 | 6 | 8 |
| 1 | 1 | 0.916 | 0.864 | 0.814 | 0.966 |
| 2 | | 1 | 0.948 | 0.896 | 0.948 |
| 4 | | | 1 | 0.948 | 0.895 |
| 6 | | | | 1 | 0.844 |
| 8 | | | | | 1 |

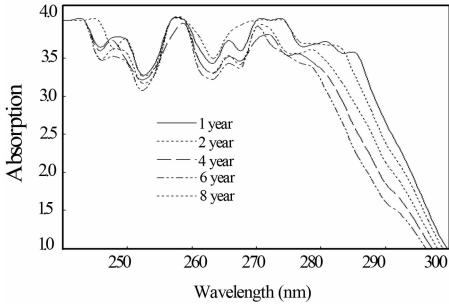


Fig.1 The UV spectrum of different years liquor.

As shown in Fig. 1, the UV spectra absorption value of samples from 1, 2, 4, 6, 8 years liquor were remarkable. And there are four peaks and three troughs at a specific wavelength. Compared with one year and 8 years samples, there are two peaks in 250 and 270 nm. After natural aging process, the carboxyl portions of the acids in 8 years liquor were undergoing substitution reactions. These reactions induced a red shift from 230 nm peak. In 280~300 nm, 1, 2, 4, 6, 8 years liquor samples tend to be stable. Except to 8 years sample, the absorption value of other samples were gradually depressed. This may be because with increasing of storage years, the physical and chemical reactions speed in liquor was slows down. In spectral absorption value, this phenomenon means decrease in absorption value.