TABLE I. Densities of poly(vinyl alcohol)-solvent systems in acetic acid at different temperatures

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *c*(CH3COOH) / mol dm-3 | Temperature, K | | | | |
| 305 | 308 | 313 | 318 | 323 |
| Densitiy ×103, kg m-3 | | | | |

|  |
| --- |
| 0.1 % (w/v) PVOH in water |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0.1 | 0.9887 | 0.9877 | 0.9861 | 0.9848 | 0.9830 |
| 0.2 | 0.9894 | 0.9886 | 0.9871 | 0.9856 | 0.9836 |
| 0.3 | 0.9901 | 0.9893 | 0.9879 | 0.9860 | 0.9838 |
| 0.4 | 0.9908 | 0.9900 | 0.9880 | 0.9869 | 0.9845 |
| 0.5 | 0.9914 | 0.9906 | 0.9891 | 0.9878 | 0.9854 |

|  |
| --- |
| 0.5 % (w/v) PVOH in water |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0.1 | 0.9895 | 0.9892 | 0.9876 | 0.9858 | 0.9846 |
| 0.2 | 0.9905 | 0.9893 | 0.9879 | 0.9864 | 0.9848 |
| 0.3 | 0.9912 | 0.9902 | 0.9882 | 0.9868 | 0.9850 |
| 0.4 | 0.9915 | 0.9907 | 0.9887 | 0.9871 | 0.9851 |
| 0.5 | 0.9925 | 0.9911 | 0.9895 | 0.9877 | 0.9856 |

|  |
| --- |
| 0.1 % (w/v) PVOH in 5 % (v/v) methanol |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0.1 | 0.9829 | 0.9823 | 0.9808 | 0.9788 | 0.9779 |
| 0.2 | 0.9834 | 0.9829 | 0.9813 | 0.9801 | 0.9789 |
| 0.3 | 0.9851 | 0.9846 | 0.9830 | 0.9810 | 0.9803 |
| 0.4 | 0.9865 | 0.9853 | 0.9838 | 0.9821 | 0.9811 |
| 0.5 | 0.9879 | 0.9867 | 0.9853 | 0.9837 | 0.9822 |

|  |
| --- |
| 0.5 % (w/v) PVOH in 5 % (v/v) methanol |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0.1 | 0.9835 | 0.9827 | 0.9819 | 0.9806 | 0.9793 |
| 0.2 | 0.9846 | 0.9842 | 0.9833 | 0.9819 | 0.9799 |
| 0.3 | 0.9859 | 0.9854 | 0.9838 | 0.9828 | 0.9818 |
| 0.4 | 0.9876 | 0.9866 | 0.9851 | 0.9841 | 0.9817 |
| 0.5 | 0.9886 | 0.9877 | 0.9867 | 0.9855 | 0.9841 |

|  |
| --- |
| 0.1 % (w/v) PVOH in 5 % (v/v) ethanol |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0.1 | 0.9824 | 0.9822 | 0.9804 | 0.9775 | 0.9769 |
| 0.2 | 0.9830 | 0.9828 | 0.9809 | 0.9790 | 0.9784 |
| 0.3 | 0.9845 | 0.9841 | 0.9925 | 0.9801 | 0.9795 |
| 0.4 | 0.9854 | 0.9853 | 0.9831 | 0.9914 | 0.9799 |
| 0.5 | 0.9870 | 0.9863 | 0.9848 | 0.9823 | 0.9814 |

|  |
| --- |
| 0.5 % (w/v) PVOH in 5 % (v/v) ethanol |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0.1 | 0.9829 | 0.9826 | 0.9811 | 0.9801 | 0.9787 |
| 0.2 | 0.9837 | 0.9835 | 0.9822 | 0.9810 | 0.9790 |
| 0.3 | 0.9851 | 0.9848 | 0.9832 | 0.9823 | 0.9801 |
| 0.4 | 0.9863 | 0.9860 | 0.9844 | 0.9837 | 0.9811 |
| 0.5 | 0.9881 | 0.9873 | 0.9852 | 0.9846 | 0.9831 |

|  |
| --- |
| 0.1 % (w/v) PVOH in 5 % (v/v) 2-propanol |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0.1 | 0.9826 | 0.9822 | 0.9806 | 0.9780 | 0.9775 |
| 0.2 | 0.9832 | 0.9830 | 0.9810 | 0.9797 | 0.9787 |
| 0.3 | 0.9849 | 0.9845 | 0.9828 | 0.9805 | 0.9800 |
| 0.4 | 0.9856 | 0.9853 | 0.9835 | 0.9919 | 0.9808 |
| 0.5 | 0.9874 | 0.9865 | 0.9850 | 0.9829 | 0.9820 |

|  |
| --- |
| 0.5 % (w/v) PVOH in 5 % (v/v) 2-propanol |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0.1 | 0.9831 | 0.9826 | 0.9817 | 0.9804 | 0.9791 |
| 0.2 | 0.9839 | 0.9837 | 0.9828 | 0.9817 | 0.9797 |
| 0.3 | 0.9857 | 0.9854 | 0.9835 | 0.9825 | 0.9803 |
| 0.4 | 0.9867 | 0.9863 | 0.9845 | 0.9839 | 0.9815 |
| 0.5 | 0.9884 | 0.9876 | 0.9859 | 0.9848 | 0.9839 |

|  |
| --- |
| 0.1 % (w/v) PVOH in 5 % (v/v) 1-butanol |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0.1 | 0.9832 | 0.9825 | 0.9812 | 0.9790 | 0.9781 |
| 0.2 | 0.9840 | 0.9834 | 0.9818 | 0.9803 | 0.9792 |
| 0.3 | 0.9855 | 0.9851 | 0.9831 | 0.9816 | 0.9806 |
| 0.4 | 0.9869 | 0.9856 | 0.9844 | 0.9825 | 0.9813 |
| 0.5 | 0.9882 | 0.9869 | 0.9860 | 0.9841 | 0.9829 |

|  |
| --- |
| 0.5 % (w/v) PVOH in 5 % (v/v) 1-butanol |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0.1 | 0.9837 | 0.9829 | 0.9821 | 0.9809 | 0.9798 |
| 0.2 | 0.9849 | 0.9844 | 0.9837 | 0.9821 | 0.9803 |
| 0.3 | 0.9863 | 0.9858 | 0.9844 | 0.9830 | 0.9813 |
| 0.4 | 0.9878 | 0.9869 | 0.9853 | 0.9845 | 0.9819 |
| 0.5 | 0.9889 | 0.9877 | 0.9870 | 0.9858 | 0.9845 |

mean ± standard deviation = 0.9842 ± 0.00327