List of Tables

1.1 A summary of the impedance pump testing configurations including actuation type and dimensions based on the testing configuration. .......................... 6
1.2 Summarizes the parameter space of the impedance pump. **Note:** Many of the material and geometrical parameters should be considered as counting twice since they describe the compressible section of the pump and the rigid end connections. .......................... 15
1.3 Summarizes the parameters of the three pumps used in the micropump viscosity study. *Note:* EL denotes excitation location as defined from the left hand side wave reflection site. .................................................................................................................. 27
2.1 Shows a summary of the important dimensionless parameters for micro mixing and pulsatile micro flows. ................................................................. 39
2.2 A summary of the various cavity flow configurations investigated under steady flow. 49
2.3 Summarizes the residence time calculations performed under steady flow conditions. 55
A.1 Summary of the impedance pump characterization system metrics. ............ 69