Answers to Brooklyn lecture test 2 fall 2012

1 − 2 − 3. - 4. − (because Hg is a liquid at room temp.)

5. 0 6. − 7. 3 8. 375 K 9. 16.7 kPa 10. 2 11 3

12. C 13 2 14 A 15 S 16. A 17. B 18 S 19 A

20. 17.2 21. A 22. 4180 J 23. 4.11 x 10−19 J

24. + 6535 kJ 25. 59.9 g 26. 0.134 J/g° 27. A 28. D 29. A

30. A 31 B

I A. + 49 kJ/mol B. Less heat released. Some heat is absorbed when a liquid is converted into a gas.

II. 0.37 g III. 0.00157 moles of hydrogen times 6/3 gives .00314 moles of HCl. 0.00314 moles / 4.00 M =0.000785 liters, or 0.785 mL

IV. −3119.44 kJ B. −111.74 kJ

V. The second reaction must be divided by 2. Answer is -198.9 kJ

B. +247.5 C. + 142.3 D) −105.2

VI. −5.45 x 10−19 J B. -1.36 x 10−19 C. 4.09 x 10−19 J

λ = 486 nm or 4.86 x 10-7 m ν = 6.17 x 1014 s−1

VII. 1200 m/s VIII. 1.22 mol SO2 0.913 mol O2 . The SO2 is limiting

The SO3 is 2.00 atm, and the remaining O2 is 0.500 atm.