

**Table 7b. X-ray Energies and Intensities (per 100 L<sub>1</sub>-Shell Vacancies)**

	<sup>13</sup> Al	<sup>14</sup> Si	<sup>15</sup> P	<sup>16</sup> S	<sup>17</sup> Cl	<sup>18</sup> Ar	<sup>19</sup> K	<sup>20</sup> Ca	<sup>21</sup> Sc	<sup>22</sup> Ti	<sup>23</sup> V	<sup>24</sup> Cr	<sup>25</sup> Mn	<sup>26</sup> Fe
L <sub>α1</sub>									<b>0.396</b> 0.023 <sub>6</sub>	<b>0.452</b> 0.056 <sub>15</sub>	<b>0.511</b> 0.11 <sub>3</sub>	<b>0.572</b> 0.16 <sub>4</sub>	<b>0.637</b> 0.23 <sub>6</sub>	<b>0.704</b> 0.29 <sub>8</sub>
L <sub>α2</sub>									<b>0.396</b> 0.0025 <sub>7</sub>	<b>0.452</b> 0.0061 <sub>16</sub>	<b>0.511</b> 0.012 <sub>3</sub>	<b>0.572</b> 0.018 <sub>5</sub>	<b>0.637</b> 0.025 <sub>7</sub>	<b>0.704</b> 0.032 <sub>9</sub>
L <sub>β1</sub>	<b>0.073</b> 0.024 <sub>7</sub>	<b>0.099</b> 0.012 <sub>4</sub>	<b>0.136</b> 0.010 <sub>3</sub>	<b>0.165</b> 0.0083 <sub>25</sub>	<b>0.202</b> 0.0077 <sub>23</sub>	<b>0.251</b> 0.0068 <sub>20</sub>	<b>0.296</b> 0.0084 <sub>25</sub>	<b>0.350</b> 0.010 <sub>3</sub>	<b>0.400</b> 0.013 <sub>3</sub>	<b>0.458</b> 0.032 <sub>8</sub>	<b>0.518</b> 0.063 <sub>16</sub>	<b>0.581</b> 0.098 <sub>25</sub>	<b>0.648</b> 0.13 <sub>3</sub>	<b>0.717</b> 0.17 <sub>4</sub>
L <sub>β3</sub>	<b>0.112</b> 0.0016 <sub>6</sub>	<b>0.146</b> 0.0018 <sub>6</sub>	<b>0.179</b> 0.0024 <sub>8</sub>	<b>0.221</b> 0.0045 <sub>16</sub>	<b>0.263</b> 0.007 <sub>3</sub>	<b>0.310</b> 0.011 <sub>4</sub>	<b>0.359</b> 0.015 <sub>5</sub>	<b>0.412</b> 0.019 <sub>6</sub>	<b>0.468</b> 0.024 <sub>7</sub>	<b>0.529</b> 0.029 <sub>9</sub>	<b>0.590</b> 0.035 <sub>11</sub>	<b>0.652</b> 0.043 <sub>13</sub>	<b>0.720</b> 0.051 <sub>15</sub>	<b>0.792</b> 0.061 <sub>18</sub>
L <sub>β4</sub>	<b>0.112</b> 0.0010 <sub>4</sub>	<b>0.146</b> 0.0012 <sub>4</sub>	<b>0.179</b> 0.0015 <sub>5</sub>	<b>0.221</b> 0.0029 <sub>10</sub>	<b>0.263</b> 0.0046 <sub>16</sub>	<b>0.310</b> 0.0070 <sub>24</sub>	<b>0.359</b> 0.009 <sub>3</sub>	<b>0.412</b> 0.012 <sub>4</sub>	<b>0.468</b> 0.015 <sub>5</sub>	<b>0.529</b> 0.018 <sub>6</sub>	<b>0.590</b> 0.023 <sub>7</sub>	<b>0.652</b> 0.028 <sub>8</sub>	<b>0.720</b> 0.033 <sub>10</sub>	<b>0.792</b> 0.039 <sub>12</sub>
L <sub>β6</sub>									<b>0.402</b> 0.0015 <sub>4</sub>	<b>0.456</b> 0.0016 <sub>4</sub>	<b>0.513</b> 0.0019 <sub>5</sub>		<b>0.640</b> 0.0020 <sub>6</sub>	<b>0.708</b> 0.0019 <sub>5</sub>
L <sub>γ</sub>									<b>0.353</b> 0.013 <sub>3</sub>	<b>0.401</b> 0.014 <sub>4</sub>	<b>0.454</b> 0.017 <sub>4</sub>	<b>0.510</b> 0.017 <sub>4</sub>	<b>0.568</b> 0.017 <sub>4</sub>	<b>0.628</b> 0.019 <sub>5</sub>
L <sub>1</sub>									<b>0.348</b> 0.023 <sub>7</sub>	<b>0.395</b> 0.025 <sub>7</sub>	<b>0.446</b> 0.030 <sub>8</sub>	<b>0.500</b> 0.029 <sub>8</sub>	<b>0.556</b> 0.033 <sub>9</sub>	<b>0.615</b> 0.035 <sub>10</sub>
	<sup>27</sup> Co	<sup>28</sup> Ni	<sup>29</sup> Cu	<sup>30</sup> Zn	<sup>31</sup> Ga	<sup>32</sup> Ge	<sup>33</sup> As	<sup>34</sup> Se	<sup>35</sup> Br	<sup>36</sup> Kr	<sup>37</sup> Rb	<sup>38</sup> Sr	<sup>39</sup> Y	<sup>40</sup> Zr
L <sub>α1</sub>	<b>0.776</b> 0.35 <sub>10</sub>	<b>0.851</b> 0.43 <sub>12</sub>	<b>0.929</b> 0.51 <sub>14</sub>	<b>1.012</b> 0.55 <sub>12</sub>	<b>1.098</b> 0.59 <sub>13</sub>	<b>1.188</b> 0.69 <sub>15</sub>	<b>1.282</b> 0.75 <sub>17</sub>	<b>1.379</b> 0.83 <sub>19</sub>	<b>1.481</b> 0.93 <sub>21</sub>	<b>1.581</b> 1.03 <sub>23</sub>	<b>1.694</b> 1.13 <sub>25</sub>	<b>1.806</b> 1.2 <sub>3</sub>	<b>1.923</b> 1.3 <sub>3</sub>	<b>2.042</b> 1.5 <sub>3</sub>
L <sub>α2</sub>	<b>0.776</b> 0.039 <sub>11</sub>	<b>0.851</b> 0.048 <sub>13</sub>	<b>0.929</b> 0.056 <sub>15</sub>	<b>1.012</b> 0.061 <sub>14</sub>	<b>1.098</b> 0.066 <sub>15</sub>	<b>1.188</b> 0.077 <sub>17</sub>	<b>1.282</b> 0.083 <sub>18</sub>	<b>1.379</b> 0.092 <sub>20</sub>	<b>1.480</b> 0.103 <sub>23</sub>	<b>1.580</b> 0.114 <sub>25</sub>	<b>1.693</b> 0.13 <sub>3</sub>	<b>1.805</b> 0.14 <sub>3</sub>	<b>1.920</b> 0.15 <sub>3</sub>	<b>2.040</b> 0.16 <sub>3</sub>
L <sub>β1</sub>	<b>0.791</b> 0.21 <sub>5</sub>	<b>0.868</b> 0.24 <sub>6</sub>	<b>0.949</b> 0.28 <sub>7</sub>	<b>1.035</b> 0.30 <sub>8</sub>	<b>1.125</b> 0.33 <sub>8</sub>	<b>1.219</b> 0.34 <sub>9</sub>	<b>1.317</b> 0.37 <sub>9</sub>	<b>1.420</b> 0.42 <sub>11</sub>	<b>1.526</b> 0.48 <sub>12</sub>	<b>1.632</b> 0.51 <sub>13</sub>	<b>1.752</b> 0.57 <sub>14</sub>	<b>1.872</b> 0.62 <sub>15</sub>	<b>1.996</b> 0.64 <sub>16</sub>	<b>2.124</b> 0.68 <sub>10</sub>
L <sub>β2,15</sub>													<b>2.078</b> 0.0038 <sub>9</sub>	<b>2.219</b> 0.0103 <sub>18</sub>
L <sub>β3</sub>	<b>0.866</b> 0.073 <sub>22</sub>	<b>0.940</b> 0.084 <sub>25</sub>	<b>1.022</b> 0.10 <sub>3</sub>	<b>1.107</b> 0.11 <sub>3</sub>	<b>1.195</b> 0.12 <sub>4</sub>	<b>1.294</b> 0.13 <sub>4</sub>	<b>1.386</b> 0.15 <sub>5</sub>	<b>1.492</b> 0.17 <sub>5</sub>	<b>1.601</b> 0.19 <sub>6</sub>	<b>1.707</b> 0.21 <sub>6</sub>	<b>1.827</b> 0.24 <sub>7</sub>	<b>1.947</b> 0.26 <sub>8</sub>	<b>2.072</b> 0.30 <sub>9</sub>	<b>2.201</b> 0.34 <sub>9</sub>
L <sub>β4</sub>	<b>0.866</b> 0.047 <sub>14</sub>	<b>0.940</b> 0.056 <sub>17</sub>	<b>1.022</b> 0.064 <sub>19</sub>	<b>1.107</b> 0.072 <sub>22</sub>	<b>1.191</b> 0.082 <sub>25</sub>	<b>1.286</b> 0.09 <sub>3</sub>	<b>1.380</b> 0.10 <sub>3</sub>	<b>1.486</b> 0.11 <sub>3</sub>	<b>1.593</b> 0.13 <sub>4</sub>	<b>1.699</b> 0.15 <sub>4</sub>	<b>1.818</b> 0.16 <sub>5</sub>	<b>1.936</b> 0.18 <sub>5</sub>	<b>2.060</b> 0.21 <sub>6</sub>	<b>2.187</b> 0.24 <sub>6</sub>
L <sub>β6</sub>	<b>0.779</b> 0.0019 <sub>5</sub>	<b>0.855</b> 0.0019 <sub>5</sub>		<b>1.020</b> 0.0018 <sub>4</sub>	<b>1.114</b> 0.0022 <sub>5</sub>	<b>1.212</b> 0.0028 <sub>6</sub>	<b>1.315</b> 0.0033 <sub>7</sub>	<b>1.424</b> 0.0038 <sub>9</sub>	<b>1.523</b> 0.0045 <sub>10</sub>	<b>1.647</b> 0.0051 <sub>11</sub>	<b>1.775</b> 0.0060 <sub>13</sub>	<b>1.902</b> 0.0069 <sub>15</sub>	<b>2.035</b> 0.0077 <sub>17</sub>	<b>2.171</b> 0.0088 <sub>16</sub>
L <sub>γ1</sub>													<b>2.153</b> 0.0089 <sub>22</sub>	<b>2.304</b> 0.022 <sub>3</sub>
L <sub>γ2</sub>						<b>1.412</b> 0.0014 <sub>4</sub>	<b>1.524</b> 0.0032 <sub>10</sub>	<b>1.648</b> 0.0054 <sub>17</sub>	<b>1.777</b> 0.009 <sub>3</sub>	<b>1.906</b> 0.013 <sub>4</sub>	<b>2.050</b> 0.017 <sub>5</sub>	<b>2.196</b> 0.022 <sub>7</sub>	<b>2.347</b> 0.026 <sub>8</sub>	<b>2.503</b> 0.033 <sub>9</sub>
L <sub>γ3</sub>					<b>1.297</b> 0.0061 <sub>19</sub>	<b>1.412</b> 0.022 <sub>7</sub>	<b>1.524</b> 0.026 <sub>8</sub>	<b>1.648</b> 0.031 <sub>9</sub>	<b>1.777</b> 0.034 <sub>11</sub>	<b>1.907</b> 0.039 <sub>12</sub>	<b>2.051</b> 0.044 <sub>13</sub>	<b>2.196</b> 0.049 <sub>15</sub>	<b>2.347</b> 0.056 <sub>17</sub>	<b>2.503</b> 0.065 <sub>17</sub>
L <sub>η</sub>	<b>0.693</b> 0.019 <sub>5</sub>	<b>0.760</b> 0.018 <sub>5</sub>	<b>0.831</b> 0.020 <sub>5</sub>	<b>0.907</b> 0.020 <sub>5</sub>	<b>0.984</b> 0.021 <sub>5</sub>	<b>1.068</b> 0.022 <sub>5</sub>	<b>1.155</b> 0.022 <sub>6</sub>	<b>1.245</b> 0.025 <sub>6</sub>	<b>1.339</b> 0.027 <sub>7</sub>	<b>1.435</b> 0.029 <sub>7</sub>	<b>1.542</b> 0.030 <sub>8</sub>	<b>1.649</b> 0.030 <sub>8</sub>	<b>1.762</b> 0.030 <sub>8</sub>	<b>1.876</b> 0.031 <sub>5</sub>
L <sub>1</sub>	<b>0.678</b> 0.037 <sub>11</sub>	<b>0.743</b> 0.039 <sub>11</sub>	<b>0.811</b> 0.041 <sub>12</sub>	<b>0.884</b> 0.041 <sub>10</sub>	<b>0.957</b> 0.041 <sub>10</sub>	<b>1.037</b> 0.045 <sub>11</sub>	<b>1.120</b> 0.045 <sub>11</sub>	<b>1.204</b> 0.048 <sub>11</sub>	<b>1.293</b> 0.051 <sub>12</sub>	<b>1.383</b> 0.054 <sub>13</sub>	<b>1.482</b> 0.058 <sub>14</sub>	<b>1.582</b> 0.060 <sub>14</sub>	<b>1.686</b> 0.063 <sub>15</sub>	<b>1.792</b> 0.069 <sub>13</sub>
	<sup>41</sup> Nb	<sup>42</sup> Mo	<sup>43</sup> Tc	<sup>44</sup> Ru	<sup>45</sup> Rh	<sup>46</sup> Pd	<sup>47</sup> Ag	<sup>48</sup> Cd	<sup>49</sup> In	<sup>50</sup> Sn	<sup>51</sup> Sb	<sup>52</sup> Te	<sup>53</sup> I	<sup>54</sup> Xe
L <sub>α1</sub>	<b>2.166</b> 1.8 <sub>3</sub>	<b>2.293</b> 1.9 <sub>3</sub>	<b>2.424</b> 2.0 <sub>4</sub>	<b>2.558</b> 2.1 <sub>4</sub>	<b>2.697</b> 2.2 <sub>4</sub>	<b>2.839</b> 2.4 <sub>4</sub>	<b>2.984</b> 2.4 <sub>4</sub>	<b>3.134</b> 2.6 <sub>5</sub>	<b>3.287</b> 2.8 <sub>5</sub>	<b>3.444</b> 1.44 <sub>25</sub>	<b>3.605</b> 1.6 <sub>3</sub>	<b>3.769</b> 1.7 <sub>3</sub>	<b>3.938</b> 1.8 <sub>3</sub>	<b>4.106</b> 2.0 <sub>3</sub>
L <sub>α2</sub>	<b>2.163</b> 0.20 <sub>4</sub>	<b>2.290</b> 0.21 <sub>4</sub>	<b>2.420</b> 0.22 <sub>4</sub>	<b>2.554</b> 0.24 <sub>4</sub>	<b>2.692</b> 0.25 <sub>5</sub>	<b>2.833</b> 0.26 <sub>5</sub>	<b>2.978</b> 0.27 <sub>5</sub>	<b>3.127</b> 0.29 <sub>5</sub>	<b>3.279</b> 0.31 <sub>6</sub>	<b>3.435</b> 0.16 <sub>3</sub>	<b>3.595</b> 0.18 <sub>3</sub>	<b>3.759</b> 0.19 <sub>3</sub>	<b>3.926</b> 0.20 <sub>3</sub>	<b>4.093</b> 0.22 <sub>4</sub>
L <sub>β1</sub>	<b>2.257</b> 0.28 <sub>4</sub>	<b>2.395</b> 0.31 <sub>5</sub>	<b>2.537</b> 0.33 <sub>5</sub>	<b>2.683</b> 0.36 <sub>6</sub>	<b>2.834</b> 0.38 <sub>6</sub>	<b>2.990</b> 0.41 <sub>6</sub>	<b>3.151</b> 0.45 <sub>7</sub>	<b>3.317</b> 0.49 <sub>8</sub>	<b>3.487</b> 0.53 <sub>8</sub>	<b>3.663</b> 0.96 <sub>10</sub>	<b>3.843</b> 1.01 <sub>11</sub>	<b>4.029</b> 1.15 <sub>12</sub>	<b>4.221</b> 1.22 <sub>13</sub>	<b>4.414</b> 1.35 <sub>14</sub>
L <sub>β2,15</sub>	<b>2.367</b> 0.055 <sub>10</sub>	<b>2.518</b> 0.099 <sub>18</sub>	<b>2.675</b> 0.15 <sub>3</sub>	<b>2.836</b> 0.20 <sub>4</sub>	<b>3.001</b> 0.23 <sub>4</sub>	<b>3.172</b> 0.28 <sub>5</sub>	<b>3.348</b> 0.32 <sub>6</sub>	<b>3.528</b> 0.37 <sub>7</sub>	<b>3.714</b> 0.43 <sub>8</sub>	<b>3.905</b> 0.23 <sub>4</sub>	<b>4.101</b> 0.27 <sub>5</sub>	<b>4.302</b> 0.31 <sub>5</sub>	<b>4.508</b> 0.34 <sub>6</sub>	<b>4.714</b> 0.38 <sub>7</sub>
L <sub>β3</sub>	<b>2.335</b> 0.47 <sub>12</sub>	<b>2.473</b> 0.50 <sub>13</sub>	<b>2.617</b> 0.55 <sub>14</sub>	<b>2.763</b> 0.60 <sub>15</sub>	<b>2.916</b> 0.65 <sub>16</sub>	<b>3.073</b> 0.71 <sub>18</sub>	<b>3.234</b> 0.81 <sub>20</sub>	<b>3.402</b> 0.91 <sub>23</sub>	<b>3.573</b> 1.01 <sub>25</sub>	<b>3.750</b> 1.9 <sub>4</sub>	<b>3.933</b> 2.0 <sub>4</sub>	<b>4.121</b> 2.1 <sub>4</sub>	<b>4.314</b> 2.2 <sub>4</sub>	<b>4.512</b> 2.3 <sub>5</sub>
L <sub>β4</sub>	<b>2.319</b> 0.33 <sub>8</sub>	<b>2.456</b> 0.35 <sub>9</sub>	<b>2.598</b> 0.38 <sub>10</sub>	<b>2.741</b> 0.41 <sub>10</sub>	<b>2.891</b> 0.44 <sub>11</sub>	<b>3.045</b> 0.46 <sub>12</sub>	<b>3.203</b> 0.52 <sub>13</sub>	<b>3.367</b> 0.58 <sub>15</sub>	<b>3.535</b> 0.63 <sub>16</sub>	<b>3.708</b> 1.16 <sub>23</sub>	<b>3.886</b> 1.21 <sub>24</sub>	<b>4.070</b> 1.26 <sub>25</sub>	<b>4.258</b> 1.3 <sub>3</sub>	<b>4.451</b> 1.4 <sub>3</sub>
L <sub>β6</sub>	<b>2.312</b> 0.0108 <sub>20</sub>	<b>2.458</b> 0.0118 <sub>21</sub>	<b>2.609</b> 0.0127 <sub>23</sub>	<b>2.763</b> 0.0139 <sub>25</sub>	<b>2.923</b> 0.015 <sub>3</sub>	<b>3.087</b> 0.016 <sub>3</sub>	<b>3.256</b> 0.016 <sub>3</sub>	<b>3.430</b> 0.018 <sub>3</sub>	<b>3.608</b> 0.019 <sub>4</sub>	<b>3.792</b> 0.0104 <sub>18</sub>	<b>3.980</b> 0.0118 <sub>20</sub>	<b>4.173</b> 0.0130 <sub>22</sub>	<b>4.371</b> 0.0139 <sub>24</sub>	<b>4.569</b> 0.015 <sub>3</sub>
L <sub>γ1</sub>	<b>2.462</b> 0.0125 <sub>19</sub>	<b>2.623</b> 0.017 <sub>3</sub>	<b>2.791</b> 0.021 <sub>3</sub>	<b>2.965</b> 0.026 <sub>4</sub>	<b>3.144</b> 0.035 <sub>5</sub>	<b>3.329</b> 0.044 <sub>7</sub>	<b>3.520</b> 0.047 <sub>7</sub>	<b>3.718</b> 0.052 <sub>8</sub>	<b>3.922</b> 0.060 <sub>9</sub>	<b>4.132</b> 0.113 <sub>12</sub>	<b>4.349</b> 0.125 <sub>13</sub>	<b>4.572</b> 0.146 <sub>15</sub>	<b>4.802</b> 0.164 <sub>17</sub>	<b>5.034</b> 0.189 <sub>20</sub>
L <sub>γ2</sub>	<b>2.664</b> 0.048 <sub>12</sub>	<b>2.831</b> 0.052 <sub>13</sub>	<b>3.004</b> 0.060 <sub>15</sub>	<b>3.181</b> 0.068 <sub>18</sub>	<b>3.364</b> 0.076 <sub>19</sub>	<b>3.553</b> 0.084 <sub>22</sub>	<b>3.743</b> 0.10 <sub>3</sub>	<b>3.951</b> 0.12 <sub>3</sub>	<b>4.160</b> 0.13 <sub>4</sub>	<b>4.376</b> 0.26 <sub>5</sub>	<b>4.600</b> 0.28 <sub>6</sub>	<b>4.829</b> 0.31 <sub>6</sub>	<b>5.065</b> 0.34 <sub>7</sub>	<b>5.307</b> 0.36 <sub>8</sub>
L <sub>γ3</sub>	<b>2.664</b> 0.091 <sub>23</sub>	<b>2.831</b> 0.098 <sub>25</sub>	<b>3.004</b> 0.11 <sub>3</sub>	<b>3.181</b> 0.12 <sub>3</sub>	<b>3.364</b> 0.13 <sub>3</sub>	<b>3.553</b> 0.15 <sub>4</sub>	<b>3.750</b> 0.17 <sub>4</sub>	<b>3.951</b> 0.19 <sub>5</sub>	<b>4.160</b> 0.22 <sub>6</sub>	<b>4.376</b> 0.41 <sub>9</sub>	<b>4.600</b> 0.44 <sub>9</sub>	<b>4.829</b> 0.47 <sub>10</sub>	<b>5.065</b> 0.51 <sub>11</sub>	<b>5.307</b> 0.54 <sub>11</sub>
L <sub>η</sub>	<b>1.996</b> 0.0127 <sub>19</sub>	<b>2.125</b> 0.0133 <sub>20</sub>	<b>2.249</b> 0.0139 <sub>21</sub>	<b>2.382</b> 0.0144 <sub>22</sub>	<b>2.519</b> 0.0147 <sub>22</sub>	<b>2.660</b> 0.0154 <sub>23</sub>	<b>2.806</b> 0.0163 <sub>25</sub>	<b>2.957</b> 0.017 <sub>3</sub>	<b>3.112</b> 0.018 <sub>3</sub>	<b>3.272</b> 0.032 <sub>3</sub>	<b>3.437</b> 0.033 <sub>3</sub>	<b>3.606</b> 0.037 <sub>4</sub>	<b>3.780</b> 0.038 <sub>4</sub>	<b>3.955</b> 0.040 <sub>4</sub>
L <sub>1</sub>	<b>1.902</b> 0.081 <sub>16</sub>	<b>2.016</b> 0.085 <sub>17</sub>	<b>2.133</b> 0.088 <sub>17</sub>	<b>2.253</b> 0.092 <sub>18</sub>	<b>2.377</b> 0.094 <sub>18</sub>	<b>2.503</b> 0.097 <sub>19</sub>	<b>2.634</b> 0.100 <sub>20</sub>	<b></b>						

**Table 7b. X-ray Energies and Intensities (per 100 L<sub>1</sub>-Shell Vacancies) (continued)**

	55 Cs	56 Ba	57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er
L <sub>α1</sub>	4.286 2.1 <sub>4</sub>	4.466 2.2 <sub>4</sub>	4.651 2.4 <sub>4</sub>	4.840 2.6 <sub>4</sub>	5.033 2.8 <sub>5</sub>	5.230 3.0 <sub>3</sub>	5.432 3.2 <sub>3</sub>	5.636 3.3 <sub>4</sub>	5.846 3.5 <sub>4</sub>	6.058 3.7 <sub>4</sub>	6.273 3.9 <sub>4</sub>	6.495 4.2 <sub>4</sub>	6.720 4.4 <sub>5</sub>	6.949 4.6 <sub>5</sub>
L <sub>α2</sub>	4.272 0.23 <sub>4</sub>	4.451 0.24 <sub>4</sub>	4.634 0.27 <sub>5</sub>	4.822 0.29 <sub>5</sub>	5.013 0.31 <sub>5</sub>	5.208 0.33 <sub>4</sub>	5.408 0.35 <sub>4</sub>	5.610 0.37 <sub>4</sub>	5.816 0.39 <sub>4</sub>	6.026 0.41 <sub>4</sub>	6.239 0.44 <sub>5</sub>	6.458 0.46 <sub>5</sub>	6.680 0.49 <sub>5</sub>	6.905 0.51 <sub>5</sub>
L <sub>β1</sub>	4.620 1.46 <sub>15</sub>	4.828 1.55 <sub>16</sub>	5.042 1.66 <sub>18</sub>	5.263 1.77 <sub>19</sub>	5.489 1.88 <sub>20</sub>	5.722 1.99 <sub>15</sub>	5.961 2.11 <sub>16</sub>	6.206 2.24 <sub>17</sub>	6.457 2.37 <sub>18</sub>	6.713 2.51 <sub>19</sub>	6.977 2.66 <sub>21</sub>	7.248 2.83 <sub>22</sub>	7.526 3.00 <sub>23</sub>	7.811 3.17 <sub>25</sub>
L <sub>β2,15</sub>	4.934 0.42 <sub>7</sub>	5.156 0.46 <sub>8</sub>	5.384 0.51 <sub>9</sub>	5.613 0.54 <sub>9</sub>	5.851 0.58 <sub>10</sub>	6.090 0.64 <sub>7</sub>	6.339 0.67 <sub>7</sub>	6.587 0.70 <sub>8</sub>	6.844 0.74 <sub>8</sub>	7.102 0.77 <sub>8</sub>	7.367 0.81 <sub>9</sub>	7.636 0.86 <sub>9</sub>	7.910 0.88 <sub>10</sub>	8.186 0.92 <sub>10</sub>
L <sub>β3</sub>	4.717 2.5 <sub>5</sub>	4.927 2.6 <sub>5</sub>	5.143 2.7 <sub>6</sub>	5.363 2.9 <sub>6</sub>	5.593 3.0 <sub>6</sub>	5.829 3.2 <sub>5</sub>	6.071 3.2 <sub>5</sub>	6.317 3.5 <sub>5</sub>	6.571 3.6 <sub>6</sub>	6.832 3.8 <sub>6</sub>	7.097 4.0 <sub>6</sub>	7.370 4.3 <sub>6</sub>	7.653 4.5 <sub>7</sub>	7.940 4.7 <sub>7</sub>
L <sub>β4</sub>	4.649 1.5 <sub>3</sub>	4.852 1.5 <sub>3</sub>	5.062 1.6 <sub>3</sub>	5.276 1.7 <sub>3</sub>	5.497 1.8 <sub>4</sub>	5.723 1.9 <sub>3</sub>	5.956 1.9 <sub>3</sub>	6.196 2.1 <sub>3</sub>	6.438 2.2 <sub>3</sub>	6.687 2.3 <sub>4</sub>	6.940 2.4 <sub>4</sub>	7.204 2.6 <sub>4</sub>	7.471 2.8 <sub>4</sub>	7.746 3.0 <sub>5</sub>
L <sub>β5</sub>			5.483 0.0051 <sub>9</sub>							7.243 0.0063 <sub>7</sub>				
L <sub>β6</sub>	4.781 0.017 <sub>3</sub>	4.994 0.018 <sub>3</sub>	5.212 0.020 <sub>4</sub>	5.434 0.022 <sub>4</sub>	5.660 0.024 <sub>4</sub>	5.893 0.026 <sub>3</sub>	6.128 0.029 <sub>3</sub>	6.370 0.031 <sub>3</sub>	6.617 0.034 <sub>4</sub>	6.867 0.037 <sub>4</sub>	7.116 0.040 <sub>4</sub>	7.374 0.044 <sub>5</sub>	7.635 0.047 <sub>5</sub>	7.909 0.052 <sub>6</sub>
L <sub>γ1</sub>	5.281 0.209 <sub>22</sub>	5.531 0.225 <sub>24</sub>	5.792 0.25 <sub>3</sub>	6.054 0.27 <sub>3</sub>	6.327 0.29 <sub>3</sub>	6.604 0.318 <sub>24</sub>	6.892 0.34 <sub>3</sub>	7.183 0.37 <sub>3</sub>	7.484 0.40 <sub>3</sub>	7.790 0.43 <sub>3</sub>	8.105 0.46 <sub>4</sub>	8.426 0.49 <sub>4</sub>	8.757 0.53 <sub>4</sub>	9.088 0.56 <sub>4</sub>
L <sub>γ2</sub>	5.542 0.40 <sub>8</sub>	5.797 0.44 <sub>9</sub>	6.060 0.47 <sub>10</sub>	6.326 0.5 <sub>1</sub>	6.599 0.54 <sub>11</sub>	6.883 0.57 <sub>9</sub>	7.186 0.59 <sub>10</sub>	7.471 0.64 <sub>10</sub>	7.768 0.68 <sub>11</sub>	8.087 0.73 <sub>12</sub>	8.398 0.77 <sub>13</sub>	8.714 0.83 <sub>13</sub>	9.051 0.88 <sub>14</sub>	9.385 0.93 <sub>15</sub>
L <sub>γ3</sub>	5.553 0.58 <sub>12</sub>	5.809 0.62 <sub>13</sub>	6.075 0.67 <sub>14</sub>	6.342 0.71 <sub>15</sub>	6.617 0.75 <sub>16</sub>	6.901 0.80 <sub>13</sub>	7.186 0.84 <sub>14</sub>	7.489 0.91 <sub>15</sub>	7.795 0.97 <sub>16</sub>	8.105 1.03 <sub>17</sub>	8.423 1.10 <sub>18</sub>	8.753 1.19 <sub>19</sub>	9.088 1.27 <sub>21</sub>	9.431 1.37 <sub>22</sub>
L <sub>γ6</sub>			5.891 0.0027 <sub>3</sub>							7.930 0.0035 <sub>4</sub>				
L <sub>η</sub>	4.142 0.043 <sub>4</sub>	4.331 0.044 <sub>5</sub>	4.529 0.046 <sub>5</sub>	4.730 0.048 <sub>5</sub>	4.929 0.050 <sub>5</sub>	5.146 0.052 <sub>4</sub>	5.363 0.053 <sub>4</sub>	5.589 0.055 <sub>4</sub>	5.817 0.057 <sub>4</sub>	6.049 0.059 <sub>4</sub>	6.284 0.061 <sub>4</sub>	6.534 0.064 <sub>5</sub>	6.789 0.066 <sub>5</sub>	7.058 0.068 <sub>5</sub>
L <sub>ι</sub>	3.795 0.083 <sub>16</sub>	3.954 0.088 <sub>16</sub>	4.121 0.098 <sub>18</sub>	4.289 0.106 <sub>20</sub>	4.453 0.113 <sub>21</sub>	4.633 0.124 <sub>16</sub>	4.809 0.131 <sub>17</sub>	4.993 0.139 <sub>18</sub>	5.177 0.147 <sub>19</sub>	5.362 0.156 <sub>20</sub>	5.546 0.166 <sub>22</sub>	5.743 0.178 <sub>23</sub>	5.943 0.187 <sub>25</sub>	6.151 0.20 <sub>3</sub>
	69 Tm	70 Yb	71 Lu	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb
L <sub>α1</sub>	7.180 4.7 <sub>5</sub>	7.416 4.8 <sub>4</sub>	7.656 4.9 <sub>4</sub>	7.899 5.1 <sub>4</sub>	8.146 5.3 <sub>4</sub>	8.398 5.5 <sub>4</sub>	8.652 6.7 <sub>5</sub>	8.911 8.1 <sub>7</sub>	9.175 9.6 <sub>8</sub>	9.443 11.0 <sub>9</sub>	9.713 12.1 <sub>10</sub>	9.989 13.2 <sub>8</sub>	10.268 13.9 <sub>8</sub>	10.551 14.6 <sub>9</sub>
L <sub>α2</sub>	7.133 0.52 <sub>6</sub>	7.367 0.54 <sub>4</sub>	7.605 0.55 <sub>4</sub>	7.844 0.57 <sub>4</sub>	8.088 0.59 <sub>5</sub>	8.335 0.62 <sub>5</sub>	8.586 0.75 <sub>6</sub>	8.840 0.91 <sub>7</sub>	9.099 1.08 <sub>9</sub>	9.362 1.23 <sub>10</sub>	9.628 1.35 <sub>11</sub>	9.899 1.48 <sub>9</sub>	10.172 1.56 <sub>9</sub>	10.450 1.64 <sub>10</sub>
L <sub>β1</sub>	8.102 3.3 <sub>3</sub>	8.402 3.51 <sub>20</sub>	8.709 3.69 <sub>21</sub>	9.023 3.67 <sub>21</sub>	9.343 3.83 <sub>22</sub>	9.672 3.77 <sub>22</sub>	10.010 3.70 <sub>22</sub>	10.354 3.84 <sub>24</sub>	10.708 3.74 <sub>25</sub>	11.071 3.6 <sub>3</sub>	11.443 3.7 <sub>3</sub>	11.824 3.59 <sub>24</sub>	12.213 3.70 <sub>25</sub>	12.614 3.53 <sub>25</sub>
L <sub>β2,15</sub>	8.468 0.92 <sub>10</sub>	8.752 0.94 <sub>8</sub>	9.044 0.99 <sub>8</sub>	9.342 1.08 <sub>9</sub>	9.646 1.16 <sub>10</sub>	9.955 1.25 <sub>10</sub>	10.268 1.53 <sub>13</sub>	10.590 1.90 <sub>16</sub>	10.912 2.28 <sub>19</sub>	11.242 2.64 <sub>22</sub>	11.576 2.93 <sub>25</sub>	11.915 3.23 <sub>21</sub>	12.261 3.42 <sub>22</sub>	12.611 3.62 <sub>23</sub>
L <sub>β3</sub>	8.231 4.9 <sub>8</sub>	8.537 5.2 <sub>8</sub>	8.847 5.5 <sub>8</sub>	9.163 5.8 <sub>9</sub>	9.488 6.2 <sub>9</sub>	9.819 6.6 <sub>10</sub>	10.159 6.4 <sub>10</sub>	10.511 5.7 <sub>9</sub>	10.868 5.2 <sub>8</sub>	11.235 4.9 <sub>7</sub>	11.610 4.5 <sub>7</sub>	11.992 4.4 <sub>7</sub>	12.390 4.4 <sub>7</sub>	12.794 4.5 <sub>7</sub>
L <sub>β4</sub>	8.026 3.2 <sub>5</sub>	8.313 3.4 <sub>5</sub>	8.607 3.7 <sub>6</sub>	8.905 4.0 <sub>6</sub>	9.213 4.3 <sub>7</sub>	9.525 4.6 <sub>7</sub>	9.845 4.6 <sub>7</sub>	10.176 4.2 <sub>6</sub>	10.510 3.9 <sub>6</sub>	10.854 3.7 <sub>6</sub>	11.205 3.5 <sub>5</sub>	11.561 3.6 <sub>5</sub>	11.931 3.6 <sub>5</sub>	12.307 3.8 <sub>6</sub>
L <sub>β5</sub>			9.240 0.0059 <sub>5</sub>	9.554 0.0152 <sub>12</sub>	9.875 0.0212 <sub>16</sub>	10.201 0.0275 <sub>22</sub>	10.532 0.061 <sub>5</sub>	10.871 0.107 <sub>9</sub>	11.211 0.159 <sub>13</sub>	11.562 0.218 <sub>18</sub>	11.916 0.278 <sub>23</sub>	12.275 0.345 <sub>21</sub>	12.643 0.405 <sub>25</sub>	13.015 0.47 <sub>3</sub>
L <sub>β6</sub>	8.176 0.053 <sub>6</sub>	8.456 0.057 <sub>4</sub>	8.738 0.058 <sub>5</sub>	9.023 0.061 <sub>5</sub>	9.316 0.065 <sub>5</sub>	9.612 0.069 <sub>5</sub>	9.910 0.087 <sub>7</sub>	10.217 0.111 <sub>9</sub>	10.525 0.135 <sub>11</sub>	10.840 0.157 <sub>13</sub>	11.160 0.177 <sub>14</sub>	11.481 0.198 <sub>12</sub>	11.812 0.213 <sub>13</sub>	12.142 0.228 <sub>14</sub>
L <sub>γ1</sub>	9.437 0.60 <sub>5</sub>	9.780 0.64 <sub>4</sub>	10.144 0.68 <sub>4</sub>	10.516 0.68 <sub>4</sub>	10.895 0.71 <sub>4</sub>	11.285 0.71 <sub>4</sub>	11.685 0.74 <sub>5</sub>	12.096 0.73 <sub>4</sub>	12.513 0.73 <sub>4</sub>	12.942 0.71 <sub>4</sub>	13.382 0.75 <sub>5</sub>	13.830 0.73 <sub>5</sub>	14.291 0.77 <sub>5</sub>	14.765 0.74 <sub>5</sub>
L <sub>γ2</sub>	9.730 1.00 <sub>16</sub>	10.090 1.07 <sub>17</sub>	10.460 1.15 <sub>19</sub>	10.834 1.24 <sub>20</sub>	11.217 1.33 <sub>21</sub>	11.608 1.43 <sub>23</sub>	12.009 1.42 <sub>23</sub>	12.421 1.31 <sub>21</sub>	12.841 1.23 <sub>20</sub>	13.273 1.19 <sub>19</sub>	13.709 1.14 <sub>18</sub>	14.158 1.16 <sub>19</sub>	14.625 1.20 <sub>19</sub>	15.097 1.29 <sub>21</sub>
L <sub>γ3</sub>	9.779 1.46 <sub>23</sub>	10.143 1.55 <sub>25</sub>	10.511 1.7 <sub>3</sub>	10.890 1.8 <sub>3</sub>	11.277 1.9 <sub>3</sub>	11.675 2.1 <sub>3</sub>	12.082 2.0 <sub>3</sub>	12.500 1.9 <sub>3</sub>	12.924 1.7 <sub>3</sub>	13.361 1.6 <sub>3</sub>	13.807 1.55 <sub>25</sub>	14.262 1.55 <sub>25</sub>	14.738 1.55 <sub>25</sub>	15.216 1.6 <sub>3</sub>
L <sub>γ6</sub>			10.344 0.0041 <sub>4</sub>	10.733 0.0103 <sub>10</sub>	11.130 0.0184 <sub>17</sub>	11.538 0.027 <sub>3</sub>	11.955 0.044 <sub>4</sub>	12.385 0.061 <sub>6</sub>	12.820 0.075 <sub>7</sub>	13.270 0.087 <sub>8</sub>	13.731 0.101 <sub>10</sub>	14.199 0.111 <sub>11</sub>	14.683 0.126 <sub>12</sub>	15.178 0.127 <sub>12</sub>
L <sub>η</sub>	7.310 0.071 <sub>5</sub>	7.580 0.074 <sub>4</sub>	7.857 0.077 <sub>4</sub>	8.139 0.076 <sub>4</sub>	8.428 0.080 <sub>4</sub>	8.724 0.079 <sub>4</sub>	9.027 0.078 <sub>4</sub>	9.337 0.081 <sub>4</sub>	9.650 0.080 <sub>4</sub>	9.975 0.079 <sub>4</sub>	10.309 0.083 <sub>5</sub>	10.647 0.081 <sub>4</sub>	10.994 0.084 <sub>5</sub>	11.349 0.081 <sub>4</sub>
L <sub>ι</sub>	6.341 0.21 <sub>3</sub>	6.545 0.217 <sub>24</sub>	6.753 0.221 <sub>24</sub>	6.960 0.23 <sub>3</sub>	7.173 0.25 <sub>3</sub>	7.387 0.26 <sub>3</sub>	7.604 0.32 <sub>4</sub>	7.822 0.40 <sub>5</sub>	8.042 0.49 <sub>5</sub>	8.266 0.57 <sub>6</sub>	8.494 0.63 <sub>7</sub>	8.722 0.71 <sub>7</sub>	8.953 0.76 <sub>8</sub>	9.184 0.81 <sub>8</sub>

**Table 7b. X-ray Energies and Intensities (per 100 L<sub>1</sub>-Shell Vacancies) (continued)**

	<sup>83</sup> Bi	<sup>84</sup> Po	<sup>85</sup> At	<sup>86</sup> Rn	<sup>87</sup> Fr	<sup>88</sup> Ra	<sup>89</sup> Ac	<sup>90</sup> Th	<sup>91</sup> Pa	<sup>92</sup> U	<sup>93</sup> Np	<sup>94</sup> Pu	<sup>95</sup> Am	<sup>96</sup> Cm
L <sub>α1</sub>	10.839 15.1 <sub>9</sub>	11.130 15.5 <sub>9</sub>	11.426 16.2 <sub>10</sub>	11.726 16.4 <sub>10</sub>	12.031 16.8 <sub>10</sub>	12.339 17.3 <sub>10</sub>	12.651 17.8 <sub>11</sub>	12.968 17.9 <sub>16</sub>	13.291 18.8 <sub>17</sub>	13.618 19.0 <sub>17</sub>	13.946 19.4 <sub>17</sub>	14.282 19.6 <sub>17</sub>	14.620 19.7 <sub>17</sub>	14.961 20.1 <sub>18</sub>
L <sub>α2</sub>	10.731 1.69 <sub>10</sub>	11.016 1.74 <sub>10</sub>	11.306 1.82 <sub>11</sub>	11.598 1.84 <sub>11</sub>	11.896 1.89 <sub>11</sub>	12.196 1.94 <sub>12</sub>	12.500 1.99 <sub>12</sub>	12.809 2.01 <sub>18</sub>	13.127 2.10 <sub>19</sub>	13.442 2.13 <sub>19</sub>	13.761 2.17 <sub>19</sub>	14.087 2.19 <sub>19</sub>	14.414 2.20 <sub>19</sub>	14.746 2.25 <sub>20</sub>
L <sub>β1</sub>	13.024 3.34 <sub>24</sub>	13.443 3.44 <sub>25</sub>	13.875 3.23 <sub>24</sub>	14.316 3.32 <sub>25</sub>	14.770 3.4 <sub>3</sub>	15.236 3.15 <sub>25</sub>	15.711 3.2 <sub>3</sub>	16.202 3.3 <sub>5</sub>	16.708 2.9 <sub>4</sub>	17.222 2.8 <sub>4</sub>	17.751 2.5 <sub>4</sub>	18.296 1.8 <sub>3</sub>	18.856 1.8 <sub>3</sub>	19.427 1.44 <sub>24</sub>
L <sub>β2,15</sub>	12.967 3.75 <sub>24</sub>	13.328 3.90 <sub>25</sub>	13.694 4.1 <sub>3</sub>	14.066 4.2 <sub>3</sub>	14.443 4.3 <sub>3</sub>	14.825 4.5 <sub>3</sub>	15.212 4.6 <sub>3</sub>	15.605 4.7 <sub>4</sub>	16.008 4.9 <sub>5</sub>	16.410 5.0 <sub>5</sub>	16.817 5.1 <sub>5</sub>	17.235 5.2 <sub>5</sub>	17.655 5.3 <sub>5</sub>	18.081 5.4 <sub>5</sub>
L <sub>β3</sub>	13.211 4.6 <sub>7</sub>	13.635 4.8 <sub>7</sub>	14.073 4.9 <sub>7</sub>	14.519 5.0 <sub>8</sub>	14.978 5.1 <sub>8</sub>	15.447 5.3 <sub>8</sub>	15.931 5.4 <sub>8</sub>	16.426 5.6 <sub>10</sub>	16.931 5.5 <sub>10</sub>	17.454 5.9 <sub>10</sub>	17.992 6.2 <sub>10</sub>	18.541 6.6 <sub>11</sub>	19.110 6.9 <sub>12</sub>	19.688 7.0 <sub>12</sub>
L <sub>β4</sub>	12.691 4.0 <sub>6</sub>	13.084 4.2 <sub>6</sub>	13.488 4.4 <sub>7</sub>	13.898 4.7 <sub>7</sub>	14.319 4.9 <sub>8</sub>	14.749 5.2 <sub>8</sub>	15.191 5.5 <sub>8</sub>	15.641 5.9 <sub>10</sub>	16.104 5.9 <sub>10</sub>	16.577 6.5 <sub>11</sub>	17.061 7.0 <sub>12</sub>	17.557 7.7 <sub>13</sub>	18.069 8.2 <sub>14</sub>	18.589 8.6 <sub>15</sub>
L <sub>β5</sub>	13.393 0.52 <sub>3</sub>	13.778 0.58 <sub>4</sub>	14.168 0.65 <sub>4</sub>	14.565 0.70 <sub>4</sub>	14.967 0.79 <sub>5</sub>	15.375 0.82 <sub>5</sub>	15.790 0.88 <sub>5</sub>	16.209 0.93 <sub>8</sub>	16.639 1.01 <sub>9</sub>	17.069 1.06 <sub>10</sub>	17.505 1.31 <sub>12</sub>	17.950 1.16 <sub>10</sub>	18.399 1.20 <sub>11</sub>	18.853 1.26 <sub>11</sub>
L <sub>β6</sub>	12.480 0.239 <sub>15</sub>	12.823 0.251 <sub>15</sub>	13.169 0.268 <sub>16</sub>	13.520 0.275 <sub>17</sub>	13.877 0.290 <sub>18</sub>	14.236 0.305 <sub>18</sub>	14.601 0.318 <sub>19</sub>	14.970 0.33 <sub>3</sub>	15.350 0.35 <sub>3</sub>	15.727 0.36 <sub>3</sub>	16.109 0.37 <sub>3</sub>	16.498 0.38 <sub>3</sub>	16.898 0.39 <sub>3</sub>	17.286 0.40 <sub>4</sub>
L <sub>γ1</sub>	15.248 0.71 <sub>4</sub>	15.742 0.74 <sub>5</sub>	16.249 0.71 <sub>5</sub>	16.770 0.74 <sub>5</sub>	17.302 0.77 <sub>5</sub>	17.848 0.72 <sub>5</sub>	18.405 0.75 <sub>5</sub>	18.980 0.77 <sub>9</sub>	19.571 0.68 <sub>8</sub>	20.169 0.68 <sub>8</sub>	20.784 0.60 <sub>7</sub>	21.420 0.43 <sub>5</sub>	22.072 0.44 <sub>5</sub>	22.735 0.36 <sub>5</sub>
L <sub>γ2</sub>	15.582 1.38 <sub>22</sub>	16.077 1.49 <sub>24</sub>	16.585 1.6 <sub>3</sub>	17.104 1.7 <sub>3</sub>	17.635 1.8 <sub>3</sub>	18.177 2.0 <sub>3</sub>	18.734 2.1 <sub>4</sub>	19.304 2.3 <sub>4</sub>	19.888 2.4 <sub>4</sub>	20.487 2.7 <sub>5</sub>	21.099 2.9 <sub>5</sub>	21.724 3.3 <sub>6</sub>	22.370 3.7 <sub>7</sub>	23.028 3.9 <sub>7</sub>
L <sub>γ3</sub>	15.709 1.7 <sub>3</sub>	16.213 1.8 <sub>3</sub>	16.731 1.9 <sub>3</sub>	17.258 1.9 <sub>3</sub>	17.800 2.0 <sub>3</sub>	18.353 2.1 <sub>3</sub>	18.922 2.2 <sub>4</sub>	19.505 2.3 <sub>4</sub>	20.101 2.3 <sub>4</sub>	20.715 2.5 <sub>5</sub>	21.342 2.7 <sub>5</sub>	21.981 2.9 <sub>5</sub>	22.643 3.1 <sub>6</sub>	23.319 3.2 <sub>6</sub>
L <sub>γ6</sub>	15.685 0.130 <sub>12</sub>	16.203 0.143 <sub>14</sub>	16.735 0.140 <sub>13</sub>	17.280 0.151 <sub>14</sub>	17.839 0.161 <sub>15</sub>	18.412 0.153 <sub>15</sub>	18.997 0.160 <sub>15</sub>	19.599 0.165 <sub>21</sub>	20.217 0.146 <sub>19</sub>	20.844 0.145 <sub>19</sub>	21.491 0.127 <sub>16</sub>	22.153 0.091 <sub>12</sub>	22.836 0.092 <sub>12</sub>	23.527 0.075 <sub>10</sub>
L <sub>η</sub>	11.712 0.079 <sub>4</sub>	12.085 0.083 <sub>5</sub>	12.466 0.078 <sub>4</sub>	12.855 0.082 <sub>4</sub>	13.255 0.085 <sub>5</sub>	13.662 0.079 <sub>4</sub>	14.082 0.082 <sub>5</sub>	14.511 0.086 <sub>9</sub>	14.953 0.075 <sub>8</sub>	15.400 0.075 <sub>8</sub>	15.861 0.066 <sub>7</sub>	16.333 0.047 <sub>5</sub>	16.819 0.048 <sub>5</sub>	17.314 0.040 <sub>4</sub>
L <sub>ι</sub>	9.420 0.86 <sub>8</sub>	9.658 0.90 <sub>9</sub>	9.897 0.96 <sub>9</sub>	10.137 0.98 <sub>10</sub>	10.381 1.03 <sub>10</sub>	10.622 1.08 <sub>11</sub>	10.871 1.14 <sub>11</sub>	11.118 1.17 <sub>14</sub>	11.372 1.25 <sub>15</sub>	11.620 1.29 <sub>15</sub>	11.871 1.34 <sub>16</sub>	12.124 1.37 <sub>16</sub>	12.377 1.41 <sub>17</sub>	12.633 1.47 <sub>17</sub>

  

	<sup>97</sup> Bk	<sup>98</sup> Cf	<sup>99</sup> Es	<sup>100</sup> Fm	<sup>101</sup> Md	<sup>102</sup> No	<sup>103</sup> Lr	<sup>104</sup> Rf
L <sub>α1</sub>	15.308 20.1 <sub>18</sub>	15.660 20.4 <sub>18</sub>	16.016 20.8 <sub>18</sub>	16.377 21 <sub>3</sub>	16.741 21 <sub>3</sub>	17.110 21 <sub>3</sub>	17.483 22 <sub>3</sub>	17.893 22 <sub>3</sub>
L <sub>α2</sub>	15.082 2.25 <sub>20</sub>	15.423 2.29 <sub>20</sub>	15.767 2.33 <sub>21</sub>	16.116 2.3 <sub>4</sub>	16.467 2.4 <sub>4</sub>	16.823 2.4 <sub>4</sub>	17.183 2.4 <sub>4</sub>	17.571 2.4 <sub>4</sub>
L <sub>β1</sub>	20.018 1.45 <sub>24</sub>	20.624 1.1 <sub>2</sub>	21.248 1.11 <sub>20</sub>	21.889 1.1 <sub>3</sub>	22.549 0.8 <sub>3</sub>	23.227 0.8 <sub>3</sub>	23.927 0.39 <sub>20</sub>	24.650 0.4 <sub>2</sub>
L <sub>β2,15</sub>	18.509 5.4 <sub>5</sub>	18.946 5.6 <sub>5</sub>	19.387 5.7 <sub>5</sub>	19.834 5.7 <sub>9</sub>	20.286 5.8 <sub>9</sub>	20.744 5.9 <sub>9</sub>	21.207 6.1 <sub>9</sub>	21.716 6.1 <sub>9</sub>
L <sub>β3</sub>	20.280 7.1 <sub>12</sub>	20.894 7.2 <sub>12</sub>	21.523 7.3 <sub>13</sub>	22.169 7.4 <sub>15</sub>	22.835 7.5 <sub>15</sub>	23.519 7.5 <sub>15</sub>	24.223 7.4 <sub>15</sub>	24.872 7.4 <sub>15</sub>
L <sub>β4</sub>	19.118 9.1 <sub>16</sub>	19.665 9.5 <sub>16</sub>	20.224 10.0 <sub>17</sub>	20.798 10.5 <sub>21</sub>	21.386 11.1 <sub>22</sub>	21.990 11.6 <sub>23</sub>	22.609 11.8 <sub>24</sub>	23.143 12.4 <sub>25</sub>
L <sub>β5</sub>	19.312 1.28 <sub>11</sub>	19.777 1.32 <sub>12</sub>	20.249 1.37 <sub>12</sub>	20.727 1.39 <sub>21</sub>	21.210 1.43 <sub>22</sub>	21.700 1.44 <sub>22</sub>	22.195 1.51 <sub>23</sub>	22.727 1.54 <sub>23</sub>
L <sub>β6</sub>	17.687 0.41 <sub>4</sub>	18.094 0.43 <sub>4</sub>	18.501 0.44 <sub>4</sub>	18.916 0.45 <sub>7</sub>	19.332 0.46 <sub>7</sub>	19.754 0.47 <sub>7</sub>	20.179 0.49 <sub>8</sub>	20.670 0.50 <sub>8</sub>
L <sub>γ1</sub>	23.416 0.37 <sub>5</sub>	24.117 0.28 <sub>4</sub>	24.836 0.29 <sub>4</sub>	25.574 0.29 <sub>5</sub>	26.333 0.20 <sub>4</sub>	27.110 0.21 <sub>4</sub>	27.911 0.10 <sub>3</sub>	28.753 0.11 <sub>3</sub>
L <sub>γ2</sub>	23.698 4.1 <sub>7</sub>	24.390 4.3 <sub>8</sub>	25.099 4.5 <sub>8</sub>	25.825 4.8 <sub>10</sub>	26.571 5 <sub>1</sub>	27.336 5.3 <sub>11</sub>	28.120 5.4 <sub>11</sub>	28.846 5.6 <sub>12</sub>
L <sub>γ3</sub>	24.007 3.3 <sub>6</sub>	24.718 3.4 <sub>6</sub>	25.446 3.4 <sub>6</sub>	26.195 3.5 <sub>7</sub>	26.963 3.6 <sub>8</sub>	27.752 3.7 <sub>8</sub>	28.560 3.8 <sub>8</sub>	29.327 3.8 <sub>8</sub>
L <sub>γ6</sub>	24.241 0.077 <sub>10</sub>	24.971 0.059 <sub>8</sub>	25.723 0.060 <sub>8</sub>	26.492 0.063 <sub>9</sub>	27.284 0.044 <sub>7</sub>	28.094 0.046 <sub>7</sub>	28.929 0.024 <sub>4</sub>	29.796 0.025 <sub>4</sub>
L <sub>η</sub>	17.826 0.040 <sub>4</sub>	18.347 0.031 <sub>3</sub>	18.884 0.031 <sub>3</sub>	19.433 0.032 <sub>4</sub>	19.998 0.0216 <sub>25</sub>	20.577 0.022 <sub>3</sub>	21.173 0.0113 <sub>15</sub>	21.825 0.0116 <sub>15</sub>
L <sub>ι</sub>	12.890 1.51 <sub>18</sub>	13.146 1.56 <sub>18</sub>	13.403 1.62 <sub>19</sub>	13.660 1.6 <sub>3</sub>	13.916 1.7 <sub>3</sub>	14.173 1.7 <sub>3</sub>	14.429 1.8 <sub>3</sub>	14.746 1.8 <sub>3</sub>

**Table 7c. X-ray Energies and Intensities (per 100 L<sub>2</sub>-Shell Vacancies)**

	13 Al	14 Si	15 P	16 S	17 Cl	18 Ar	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe
L <sub>β1</sub>	<b>0.073</b> 0.075 <sub>23</sub>	<b>0.099</b> 0.037 <sub>11</sub>	<b>0.136</b> 0.031 <sub>9</sub>	<b>0.165</b> 0.026 <sub>8</sub>	<b>0.202</b> 0.024 <sub>7</sub>	<b>0.251</b> 0.022 <sub>7</sub>	<b>0.296</b> 0.027 <sub>8</sub>	<b>0.350</b> 0.033 <sub>8</sub>	<b>0.400</b> 0.042 <sub>11</sub>	<b>0.458</b> 0.10 <sub>3</sub>	<b>0.518</b> 0.21 <sub>5</sub>	<b>0.581</b> 0.32 <sub>8</sub>	<b>0.648</b> 0.44 <sub>11</sub>	<b>0.717</b> 0.57 <sub>14</sub>
L <sub>η</sub>									<b>0.353</b> 0.042 <sub>10</sub>	<b>0.401</b> 0.046 <sub>12</sub>	<b>0.454</b> 0.055 <sub>14</sub>	<b>0.510</b> 0.054 <sub>13</sub>	<b>0.568</b> 0.058 <sub>14</sub>	<b>0.628</b> 0.062 <sub>16</sub>
	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr	37 Rb	38 Sr	39 Y	40 Zr
L <sub>α1</sub>		<b>0.851</b> 0.022 <sub>12</sub>	<b>0.929</b> 0.026 <sub>14</sub>	<b>1.012</b> 0.026 <sub>8</sub>	<b>1.098</b> 0.035 <sub>11</sub>	<b>1.188</b> 0.064 <sub>20</sub>	<b>1.282</b> 0.09 <sub>3</sub>	<b>1.379</b> 0.12 <sub>4</sub>	<b>1.481</b> 0.15 <sub>5</sub>	<b>1.581</b> 0.19 <sub>6</sub>	<b>1.694</b> 0.22 <sub>7</sub>	<b>1.806</b> 0.26 <sub>8</sub>	<b>1.923</b> 0.30 <sub>10</sub>	<b>2.042</b> 0.35 <sub>9</sub>
L <sub>α2</sub>		<b>0.851</b> 0.0024 <sub>13</sub>	<b>0.929</b> 0.0029 <sub>16</sub>	<b>1.012</b> 0.0029 <sub>9</sub>	<b>1.098</b> 0.0039 <sub>12</sub>	<b>1.188</b> 0.0071 <sub>23</sub>	<b>1.282</b> 0.010 <sub>3</sub>	<b>1.379</b> 0.013 <sub>4</sub>	<b>1.480</b> 0.017 <sub>5</sub>	<b>1.580</b> 0.021 <sub>7</sub>	<b>1.693</b> 0.025 <sub>8</sub>	<b>1.805</b> 0.029 <sub>9</sub>	<b>1.920</b> 0.033 <sub>11</sub>	<b>2.040</b> 0.039 <sub>10</sub>
L <sub>β1</sub>	<b>0.791</b> 0.71 <sub>18</sub>	<b>0.868</b> 0.80 <sub>20</sub>	<b>0.949</b> 0.93 <sub>23</sub>	<b>1.035</b> 1.0 <sub>3</sub>	<b>1.125</b> 1.1 <sub>3</sub>	<b>1.219</b> 1.2 <sub>3</sub>	<b>1.317</b> 1.3 <sub>3</sub>	<b>1.420</b> 1.5 <sub>4</sub>	<b>1.526</b> 1.7 <sub>4</sub>	<b>1.632</b> 1.9 <sub>5</sub>	<b>1.752</b> 2.1 <sub>5</sub>	<b>1.872</b> 2.3 <sub>6</sub>	<b>1.996</b> 2.5 <sub>6</sub>	<b>2.124</b> 2.6 <sub>4</sub>
L <sub>β2,15</sub>														<b>2.219</b> 0.0025 <sub>6</sub>
L <sub>β6</sub>											<b>1.775</b> 0.0012 <sub>4</sub>	<b>1.902</b> 0.0015 <sub>5</sub>	<b>2.035</b> 0.0018 <sub>6</sub>	<b>2.171</b> 0.0021 <sub>5</sub>
L <sub>γ1</sub>													<b>2.153</b> 0.034 <sub>9</sub>	<b>2.304</b> 0.086 <sub>13</sub>
L <sub>η</sub>	<b>0.693</b> 0.064 <sub>16</sub>	<b>0.760</b> 0.061 <sub>15</sub>	<b>0.831</b> 0.067 <sub>17</sub>	<b>0.907</b> 0.070 <sub>18</sub>	<b>0.984</b> 0.074 <sub>18</sub>	<b>1.068</b> 0.077 <sub>19</sub>	<b>1.155</b> 0.080 <sub>20</sub>	<b>1.245</b> 0.088 <sub>22</sub>	<b>1.339</b> 0.095 <sub>24</sub>	<b>1.435</b> 0.102 <sub>25</sub>	<b>1.542</b> 0.11 <sub>3</sub>	<b>1.649</b> 0.11 <sub>3</sub>	<b>1.762</b> 0.12 <sub>3</sub>	<b>1.876</b> 0.119 <sub>18</sub>
L <sub>ι</sub>		<b>0.743</b> 0.0019 <sub>11</sub>	<b>0.811</b> 0.0021 <sub>12</sub>	<b>0.884</b> 0.0019 <sub>6</sub>	<b>0.957</b> 0.0024 <sub>8</sub>	<b>1.037</b> 0.0041 <sub>13</sub>	<b>1.120</b> 0.0052 <sub>17</sub>	<b>1.204</b> 0.0067 <sub>22</sub>	<b>1.293</b> 0.008 <sub>3</sub>	<b>1.383</b> 0.010 <sub>3</sub>	<b>1.482</b> 0.011 <sub>4</sub>	<b>1.582</b> 0.013 <sub>4</sub>	<b>1.686</b> 0.015 <sub>5</sub>	<b>1.792</b> 0.016 <sub>4</sub>
	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe
L <sub>α1</sub>	<b>2.166</b> 0.39 <sub>10</sub>	<b>2.293</b> 0.43 <sub>11</sub>	<b>2.424</b> 0.47 <sub>12</sub>	<b>2.558</b> 0.51 <sub>13</sub>	<b>2.697</b> 0.55 <sub>14</sub>	<b>2.839</b> 0.58 <sub>15</sub>	<b>2.984</b> 0.62 <sub>15</sub>	<b>3.134</b> 0.67 <sub>17</sub>	<b>3.287</b> 0.72 <sub>18</sub>	<b>3.444</b> 0.76 <sub>17</sub>	<b>3.605</b> 0.81 <sub>18</sub>	<b>3.769</b> 0.86 <sub>19</sub>	<b>3.938</b> 0.9 <sub>2</sub>	<b>4.106</b> 0.97 <sub>22</sub>
L <sub>α2</sub>	<b>2.163</b> 0.043 <sub>11</sub>	<b>2.290</b> 0.048 <sub>12</sub>	<b>2.420</b> 0.052 <sub>13</sub>	<b>2.554</b> 0.056 <sub>14</sub>	<b>2.692</b> 0.061 <sub>15</sub>	<b>2.833</b> 0.064 <sub>16</sub>	<b>2.978</b> 0.069 <sub>17</sub>	<b>3.127</b> 0.074 <sub>19</sub>	<b>3.279</b> 0.080 <sub>20</sub>	<b>3.435</b> 0.085 <sub>19</sub>	<b>3.595</b> 0.090 <sub>20</sub>	<b>3.759</b> 0.095 <sub>21</sub>	<b>3.926</b> 0.100 <sub>23</sub>	<b>4.093</b> 0.107 <sub>24</sub>
L <sub>β1</sub>	<b>2.257</b> 2.9 <sub>4</sub>	<b>2.395</b> 3.1 <sub>5</sub>	<b>2.537</b> 3.4 <sub>5</sub>	<b>2.683</b> 3.6 <sub>5</sub>	<b>2.834</b> 3.8 <sub>6</sub>	<b>2.990</b> 4.1 <sub>6</sub>	<b>3.151</b> 4.5 <sub>7</sub>	<b>3.317</b> 4.9 <sub>7</sub>	<b>3.487</b> 5.3 <sub>8</sub>	<b>3.663</b> 5.6 <sub>6</sub>	<b>3.843</b> 6.0 <sub>6</sub>	<b>4.029</b> 6.4 <sub>7</sub>	<b>4.221</b> 6.8 <sub>7</sub>	<b>4.414</b> 7.1 <sub>7</sub>
L <sub>β2,15</sub>	<b>2.367</b> 0.012 <sub>3</sub>	<b>2.518</b> 0.022 <sub>6</sub>	<b>2.675</b> 0.034 <sub>9</sub>	<b>2.836</b> 0.047 <sub>12</sub>	<b>3.001</b> 0.057 <sub>14</sub>	<b>3.172</b> 0.068 <sub>17</sub>	<b>3.348</b> 0.08 <sub>2</sub>	<b>3.528</b> 0.095 <sub>24</sub>	<b>3.714</b> 0.11 <sub>3</sub>	<b>3.905</b> 0.12 <sub>3</sub>	<b>4.101</b> 0.14 <sub>3</sub>	<b>4.302</b> 0.15 <sub>4</sub>	<b>4.508</b> 0.17 <sub>4</sub>	<b>4.714</b> 0.19 <sub>4</sub>
L <sub>β6</sub>	<b>2.312</b> 0.0024 <sub>6</sub>	<b>2.458</b> 0.0027 <sub>7</sub>	<b>2.609</b> 0.0029 <sub>7</sub>	<b>2.763</b> 0.0033 <sub>8</sub>	<b>2.923</b> 0.0036 <sub>9</sub>	<b>3.087</b> 0.0038 <sub>10</sub>	<b>3.256</b> 0.0041 <sub>10</sub>	<b>3.430</b> 0.0046 <sub>12</sub>	<b>3.608</b> 0.0050 <sub>13</sub>	<b>3.792</b> 0.0055 <sub>12</sub>	<b>3.980</b> 0.0060 <sub>13</sub>	<b>4.173</b> 0.0065 <sub>15</sub>	<b>4.371</b> 0.0070 <sub>16</sub>	<b>4.569</b> 0.0076 <sub>17</sub>
L <sub>γ1</sub>	<b>2.462</b> 0.125 <sub>19</sub>	<b>2.623</b> 0.17 <sub>3</sub>	<b>2.791</b> 0.21 <sub>3</sub>	<b>2.965</b> 0.26 <sub>4</sub>	<b>3.144</b> 0.35 <sub>5</sub>	<b>3.329</b> 0.44 <sub>7</sub>	<b>3.520</b> 0.47 <sub>7</sub>	<b>3.718</b> 0.52 <sub>8</sub>	<b>3.922</b> 0.60 <sub>9</sub>	<b>4.132</b> 0.67 <sub>7</sub>	<b>4.349</b> 0.73 <sub>8</sub>	<b>4.572</b> 0.81 <sub>9</sub>	<b>4.802</b> 0.91 <sub>10</sub>	<b>5.034</b> 0.99 <sub>10</sub>
L <sub>η</sub>	<b>1.996</b> 0.127 <sub>19</sub>	<b>2.120</b> 0.133 <sub>20</sub>	<b>2.249</b> 0.139 <sub>21</sub>	<b>2.382</b> 0.144 <sub>22</sub>	<b>2.519</b> 0.147 <sub>22</sub>	<b>2.660</b> 0.154 <sub>23</sub>	<b>2.806</b> 0.163 <sub>25</sub>	<b>2.957</b> 0.17 <sub>3</sub>	<b>3.112</b> 0.18 <sub>3</sub>	<b>3.272</b> 0.189 <sub>19</sub>	<b>3.437</b> 0.195 <sub>20</sub>	<b>3.606</b> 0.204 <sub>21</sub>	<b>3.780</b> 0.210 <sub>21</sub>	<b>3.955</b> 0.213 <sub>22</sub>
L <sub>ι</sub>	<b>1.902</b> 0.018 <sub>5</sub>	<b>2.016</b> 0.019 <sub>5</sub>	<b>2.133</b> 0.020 <sub>5</sub>	<b>2.253</b> 0.022 <sub>6</sub>	<b>2.377</b> 0.023 <sub>6</sub>	<b>2.503</b> 0.024 <sub>6</sub>	<b>2.634</b> 0.025 <sub>7</sub>	<b>2.767</b> 0.027 <sub>7</sub>	<b>2.905</b> 0.029 <sub>8</sub>	<b>3.045</b> 0.031 <sub>7</sub>	<b>3.189</b> 0.032 <sub>8</sub>	<b>3.335</b> 0.034 <sub>8</sub>	<b>3.485</b> 0.036 <sub>9</sub>	<b>3.634</b> 0.039 <sub>9</sub>
	55 Cs	56 Ba	57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er
L <sub>α1</sub>	<b>4.286</b> 1.03 <sub>23</sub>	<b>4.466</b> 1.09 <sub>24</sub>	<b>4.651</b> 1.2 <sub>3</sub>	<b>4.840</b> 1.2 <sub>3</sub>	<b>5.033</b> 1.3 <sub>3</sub>	<b>5.230</b> 1.38 <sub>25</sub>	<b>5.432</b> 1.5 <sub>3</sub>	<b>5.636</b> 1.5 <sub>3</sub>	<b>5.846</b> 1.6 <sub>3</sub>	<b>6.058</b> 1.7 <sub>3</sub>	<b>6.273</b> 1.7 <sub>3</sub>	<b>6.495</b> 1.8 <sub>3</sub>	<b>6.720</b> 1.9 <sub>3</sub>	<b>6.949</b> 2.0 <sub>4</sub>
L <sub>α2</sub>	<b>4.272</b> 0.11 <sub>3</sub>	<b>4.451</b> 0.12 <sub>3</sub>	<b>4.634</b> 0.13 <sub>3</sub>	<b>4.822</b> 0.14 <sub>3</sub>	<b>5.013</b> 0.15 <sub>3</sub>	<b>5.208</b> 0.15 <sub>3</sub>	<b>5.408</b> 0.16 <sub>3</sub>	<b>5.610</b> 0.17 <sub>3</sub>	<b>5.816</b> 0.18 <sub>3</sub>	<b>6.026</b> 0.18 <sub>3</sub>	<b>6.239</b> 0.19 <sub>3</sub>	<b>6.458</b> 0.20 <sub>4</sub>	<b>6.680</b> 0.21 <sub>4</sub>	<b>6.905</b> 0.22 <sub>4</sub>
L <sub>β1</sub>	<b>4.620</b> 7.7 <sub>8</sub>	<b>4.828</b> 8.2 <sub>8</sub>	<b>5.042</b> 8.7 <sub>9</sub>	<b>5.263</b> 9.3 <sub>10</sub>	<b>5.489</b> 9.9 <sub>10</sub>	<b>5.722</b> 10.5 <sub>8</sub>	<b>5.961</b> 11.1 <sub>8</sub>	<b>6.206</b> 11.8 <sub>9</sub>	<b>6.457</b> 12.5 <sub>9</sub>	<b>6.713</b> 13.2 <sub>10</sub>	<b>6.977</b> 14 <sub>1</sub>	<b>7.248</b> 14.9 <sub>11</sub>	<b>7.526</b> 15.8 <sub>11</sub>	<b>7.811</b> 16.7 <sub>12</sub>
L <sub>β2,15</sub>	<b>4.934</b> 0.21 <sub>5</sub>	<b>5.156</b> 0.22 <sub>5</sub>	<b>5.384</b> 0.24 <sub>6</sub>	<b>5.613</b> 0.26 <sub>6</sub>	<b>5.851</b> 0.28 <sub>6</sub>	<b>6.090</b> 0.29 <sub>5</sub>	<b>6.339</b> 0.31 <sub>6</sub>	<b>6.587</b> 0.32 <sub>6</sub>	<b>6.844</b> 0.33 <sub>6</sub>	<b>7.102</b> 0.35 <sub>6</sub>	<b>7.367</b> 0.36 <sub>6</sub>	<b>7.636</b> 0.37 <sub>7</sub>	<b>7.910</b> 0.38 <sub>7</sub>	<b>8.186</b> 0.39 <sub>7</sub>
L <sub>β5</sub>			<b>5.483</b> 0.0024 <sub>6</sub>							<b>7.243</b> 0.0028 <sub>5</sub>				
L <sub>β6</sub>	<b>4.781</b> 0.0084 <sub>19</sub>	<b>4.994</b> 0.009 <sub>2</sub>	<b>5.212</b> 0.0097 <sub>22</sub>	<b>5.434</b> 0.0105 <sub>24</sub>	<b>5.660</b> 0.0113 <sub>25</sub>	<b>5.893</b> 0.0122 <sub>22</sub>	<b>6.128</b> 0.0131 <sub>23</sub>	<b>6.370</b> 0.0141 <sub>25</sub>	<b>6.617</b> 0.015 <sub>3</sub>	<b>6.867</b> 0.016 <sub>3</sub>	<b>7.116</b> 0.018 <sub>3</sub>	<b>7.374</b> 0.019 <sub>3</sub>	<b>7.635</b> 0.020 <sub>4</sub>	<b>7.909</b> 0.022 <sub>4</sub>
L <sub>γ1</sub>	<b>5.281</b> 1.10 <sub>12</sub>	<b>5.531</b> 1.19 <sub>12</sub>	<b>5.792</b> 1.30 <sub>14</sub>	<b>6.054</b> 1.43 <sub>15</sub>	<b>6.327</b> 1.55 <sub>16</sub>	<b>6.604</b> 1.67 <sub>13</sub>	<b>6.892</b> 1.81 <sub>14</sub>	<b>7.183</b> 1.94 <sub>15</sub>	<b>7.484</b> 2.10 <sub>16</sub>	<b>7.790</b> 2.25 <sub>17</sub>	<b>8.105</b> 2.40 <sub>18</sub>	<b>8.426</b> 2.59 <sub>20</sub>	<b>8.757</b> 2.78 <sub>21</sub>	<b>9.088</b> 2.97 <sub>23</sub>
L <sub>γ6</sub>			<b>5.891</b> 0.0140 <sub>18</sub>							<b>7.930</b> 0.0185 <sub>20</sub>				
L <sub>η</sub>	<b>4.142</b> 0.224 <sub>23</sub>	<b>4.331</b> 0.233 <sub>24</sub>	<b>4.529</b> 0.242 <sub>25</sub>	<b>4.730</b> 0.25 <sub>3</sub>	<b>4.929</b> 0.26 <sub>3</sub>	<b>5.146</b> 0.272 <sub>20</sub>	<b>5.363</b> 0.28 <sub>2</sub>	<b>5.589</b> 0.288 <sub>21</sub>	<b>5.817</b> 0.300 <sub>22</sub>	<b>6.049</b> 0.311 <sub>23</sub>	<b>6.284</b> 0.321 <sub>23</sub>	<b>6.534</b> 0.335 <sub>24</sub>	<b>6.789</b> 0.347 <sub>25</sub>	<b>7.058</b> 0.36 <sub>3</sub>
L <sub>ι</sub>	<b>3.795</b> 0.041 <sub>10</sub>	<b>3.954</b> 0.044 <sub>10</sub>	<b>4.121</b> 0.047 <sub>11</sub>	<b>4.289</b> 0.051 <sub>12</sub>	<b>4.453</b> 0.054 <sub>13</sub>	<b>4.633</b> 0.057 <sub>11</sub>	<b>4.809</b> 0.060 <sub>12</sub>	<b>4.993</b> 0.063 <sub>12</sub>	<b>5.177</b> 0.067 <sub>13</sub>	<b>5.362</b> 0.070 <sub>14</sub>	<b>5.546</b> 0.073 <sub>14</sub>	<b>5.743</b> 0.077 <sub>15</sub>	<b>5.943</b> 0.081 <sub>16</sub>	<b>6.151</b> 0.085 <sub>17</sub>
	69 Tm	70 Yb	71 Lu	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb
L <sub>α1</sub>	<b>7.180</b> 2.0 <sub>4</sub>	<b>7.416</b> 2.1 <sub>3</sub>	<b>7.656</b> 2.2 <sub>3</sub>	<b>7.899</b> 2.2 <sub>4</sub>	<b>8.146</b> 2.3 <sub>4</sub>	<b>8.398</b> 2.4 <sub>4</sub>	<b>8.652</b> 2.5 <sub>4</sub>	<b>8.911</b> 2.5 <sub>4</sub>	<b>9.175</b> 2.6 <sub>4</sub>	<b>9.443</b> 2.6 <sub>4</sub>	<b>9.713</b> 2.7 <sub>4</sub>	<b>9.989</b> 2.7 <sub>4</sub>	<b>10.268</b> 2.8 <sub>4</sub>	<b>10.551</b> 2.8 <sub>4</sub>
L <sub>α2</sub>	<b>7.133</b> 0.23 <sub>4</sub>	<b>7.367</b> 0.24 <sub>4</sub>	<b>7.605</b> 0.24 <sub>4</sub>	<b>7.844</b> 0.25 <sub>4</sub>	<b>8.088</b> 0.26 <sub>4</sub>	<b>8.335</b> 0.27 <sub>4</sub>	<b>8.586</b> 0.27 <sub>4</sub>	<b>8.840</b> 0.28 <sub>4</sub>	<b>9.099</b> 0.29 <sub>5</sub>	<b>9.362</b> 0.29 <sub>5</sub>	<b>9.628</b> 0.30 <sub>5</sub>	<b>9.899</b> 0.31 <sub>5</sub>	<b>10.172</b> 0.31 <sub>5</sub>	<b>10.450</b> 0.32 <sub>5</sub>
L <sub>β1</sub>	<b>8.102</b> 17.6 <sub>13</sub>	<b>8.402</b> 18.5 <sub>10</sub>	<b>8.709</b> 19.4 <sub>10</sub>	<b>9.023</b> 20.4 <sub>11</sub>	<b>9.343</b> 21.3 <sub>11</sub>	<b>9.672</b> 22.2 <sub>12</sub>	<b>10.010</b> 23.1 <sub>12</sub>	<b>10.354</b> 24.0 <sub>13</sub>	<b>10.708</b> 24.9 <sub>13</sub>	<b>11.071</b> 25.8 <sub>14</sub>	<b>11.443</b> 26.7 <sub>14</sub>	<b>11.824</b> 27.6 <sub>15</sub>	<b>12.213</b> 28.5 <sub>15</sub>	<b>12.614</b> 29.4 <sub>16</sub>
L <sub>β2,15</sub>	<b>8.468</b> 0.40 <sub>7</sub>	<b>8.752</b> 0.41 <sub>7</sub>												

**Table 7c. X-ray Energies and Intensities (per 100 L<sub>2</sub>-Shell Vacancies) (continued)**

	<sup>69</sup> Tm	<sup>70</sup> Yb	<sup>71</sup> Lu	<sup>72</sup> Hf	<sup>73</sup> Ta	<sup>74</sup> W	<sup>75</sup> Re	<sup>76</sup> Os	<sup>77</sup> Ir	<sup>78</sup> Pt	<sup>79</sup> Au	<sup>80</sup> Hg	<sup>81</sup> Tl	<sup>82</sup> Pb
continued														
L <sub>β5</sub>			<b>9.240</b>	<b>9.554</b>	<b>9.875</b>	<b>10.201</b>	<b>10.532</b>	<b>10.871</b>	<b>11.211</b>	<b>11.562</b>	<b>11.916</b>	<b>12.275</b>	<b>12.643</b>	<b>13.015</b>
			0.0026 <sub>4</sub>	0.0067 <sub>11</sub>	0.0092 <sub>15</sub>	0.0120 <sub>19</sub>	0.022 <sub>4</sub>	0.033 <sub>5</sub>	0.042 <sub>7</sub>	0.052 <sub>8</sub>	0.062 <sub>10</sub>	0.072 <sub>11</sub>	0.081 <sub>12</sub>	0.091 <sub>14</sub>
L <sub>β6</sub>	<b>8.176</b>	<b>8.456</b>	<b>8.738</b>	<b>9.023</b>	<b>9.316</b>	<b>9.612</b>	<b>9.910</b>	<b>10.217</b>	<b>10.525</b>	<b>10.840</b>	<b>11.160</b>	<b>11.481</b>	<b>11.812</b>	<b>12.142</b>
	0.023 <sub>4</sub>	0.025 <sub>4</sub>	0.026 <sub>4</sub>	0.027 <sub>4</sub>	0.029 <sub>4</sub>	0.030 <sub>5</sub>	0.032 <sub>5</sub>	0.034 <sub>5</sub>	0.036 <sub>6</sub>	0.038 <sub>6</sub>	0.039 <sub>6</sub>	0.041 <sub>6</sub>	0.043 <sub>7</sub>	0.044 <sub>7</sub>
L <sub>γ1</sub>	<b>9.437</b>	<b>9.780</b>	<b>10.144</b>	<b>10.516</b>	<b>10.895</b>	<b>11.285</b>	<b>11.685</b>	<b>12.096</b>	<b>12.513</b>	<b>12.942</b>	<b>13.382</b>	<b>13.830</b>	<b>14.291</b>	<b>14.765</b>
	3.16 <sub>24</sub>	3.36 <sub>20</sub>	3.55 <sub>21</sub>	3.75 <sub>22</sub>	3.96 <sub>23</sub>	4.17 <sub>24</sub>	4.4 <sub>3</sub>	4.6 <sub>3</sub>	4.9 <sub>3</sub>	5.1 <sub>3</sub>	5.4 <sub>3</sub>	5.6 <sub>3</sub>	5.9 <sub>3</sub>	6.2 <sub>4</sub>
L <sub>γ6</sub>			<b>10.344</b>	<b>10.733</b>	<b>11.130</b>	<b>11.538</b>	<b>11.955</b>	<b>12.385</b>	<b>12.820</b>	<b>13.270</b>	<b>13.731</b>	<b>14.199</b>	<b>14.683</b>	<b>15.178</b>
			0.0214 <sub>20</sub>	0.057 <sub>5</sub>	0.102 <sub>10</sub>	0.160 <sub>15</sub>	0.28 <sub>3</sub>	0.38 <sub>4</sub>	0.50 <sub>5</sub>	0.62 <sub>6</sub>	0.72 <sub>7</sub>	0.86 <sub>8</sub>	0.97 <sub>9</sub>	1.06 <sub>10</sub>
L <sub>η</sub>	<b>7.310</b>	<b>7.580</b>	<b>7.857</b>	<b>8.139</b>	<b>8.428</b>	<b>8.724</b>	<b>9.027</b>	<b>9.337</b>	<b>9.650</b>	<b>9.975</b>	<b>10.309</b>	<b>10.647</b>	<b>10.994</b>	<b>11.349</b>
	0.37 <sub>3</sub>	0.388 <sub>21</sub>	0.406 <sub>22</sub>	0.424 <sub>23</sub>	0.445 <sub>24</sub>	0.466 <sub>25</sub>	0.49 <sub>3</sub>	0.51 <sub>3</sub>	0.54 <sub>3</sub>	0.56 <sub>3</sub>	0.59 <sub>3</sub>	0.62 <sub>3</sub>	0.65 <sub>4</sub>	0.68 <sub>4</sub>
L <sub>ι</sub>	<b>6.341</b>	<b>6.545</b>	<b>6.753</b>	<b>6.960</b>	<b>7.173</b>	<b>7.387</b>	<b>7.604</b>	<b>7.822</b>	<b>8.042</b>	<b>8.266</b>	<b>8.494</b>	<b>8.722</b>	<b>8.953</b>	<b>9.184</b>
	0.090 <sub>18</sub>	0.094 <sub>16</sub>	0.098 <sub>17</sub>	0.102 <sub>18</sub>	0.108 <sub>19</sub>	0.114 <sub>20</sub>	0.119 <sub>21</sub>	0.124 <sub>22</sub>	0.129 <sub>23</sub>	0.135 <sub>24</sub>	0.141 <sub>25</sub>	0.147 <sub>25</sub>	0.15 <sub>3</sub>	0.163 <sub>3</sub>
	<sup>83</sup> Bi	<sup>84</sup> Po	<sup>85</sup> At	<sup>86</sup> Rn	<sup>87</sup> Fr	<sup>88</sup> Ra	<sup>89</sup> Ac	<sup>90</sup> Th	<sup>91</sup> Pa	<sup>92</sup> U	<sup>93</sup> Np	<sup>94</sup> Pu	<sup>95</sup> Am	<sup>96</sup> Cm
L <sub>α1</sub>	<b>10.839</b>	<b>11.130</b>	<b>11.426</b>	<b>11.726</b>	<b>12.031</b>	<b>12.339</b>	<b>12.651</b>	<b>12.968</b>	<b>13.291</b>	<b>13.618</b>	<b>13.946</b>	<b>14.282</b>	<b>14.620</b>	<b>14.961</b>
	2.9 <sub>4</sub>	2.9 <sub>5</sub>	3.0 <sub>5</sub>	3.0 <sub>5</sub>	3.1 <sub>5</sub>	3.1 <sub>5</sub>	3.2 <sub>5</sub>	3.3 <sub>5</sub>	4.3 <sub>7</sub>	5.4 <sub>8</sub>	6.3 <sub>10</sub>	6.6 <sub>10</sub>	6.9 <sub>11</sub>	7.0 <sub>11</sub>
L <sub>α2</sub>	<b>10.731</b>	<b>11.016</b>	<b>11.306</b>	<b>11.598</b>	<b>11.896</b>	<b>12.196</b>	<b>12.500</b>	<b>12.809</b>	<b>13.127</b>	<b>13.442</b>	<b>13.761</b>	<b>14.087</b>	<b>14.414</b>	<b>14.746</b>
	0.32 <sub>5</sub>	0.32 <sub>5</sub>	0.33 <sub>5</sub>	0.34 <sub>5</sub>	0.35 <sub>5</sub>	0.35 <sub>5</sub>	0.36 <sub>6</sub>	0.37 <sub>6</sub>	0.49 <sub>8</sub>	0.60 <sub>9</sub>	0.70 <sub>11</sub>	0.74 <sub>12</sub>	0.78 <sub>12</sub>	0.78 <sub>12</sub>
L <sub>β1</sub>	<b>13.024</b>	<b>13.443</b>	<b>13.875</b>	<b>14.316</b>	<b>14.770</b>	<b>15.236</b>	<b>15.711</b>	<b>16.202</b>	<b>16.708</b>	<b>17.222</b>	<b>17.751</b>	<b>18.296</b>	<b>18.856</b>	<b>19.427</b>
	30.4 <sub>16</sub>	31.3 <sub>17</sub>	32.3 <sub>17</sub>	33.2 <sub>18</sub>	34.1 <sub>18</sub>	35.0 <sub>19</sub>	35.8 <sub>19</sub>	37 <sub>4</sub>	36 <sub>4</sub>	35 <sub>4</sub>	35 <sub>4</sub>	35 <sub>4</sub>	36 <sub>4</sub>	36 <sub>4</sub>
L <sub>β2,15</sub>	<b>12.967</b>	<b>13.328</b>	<b>13.694</b>	<b>14.066</b>	<b>14.443</b>	<b>14.825</b>	<b>15.212</b>	<b>15.605</b>	<b>16.008</b>	<b>16.410</b>	<b>16.817</b>	<b>17.235</b>	<b>17.655</b>	<b>18.081</b>
	0.71 <sub>11</sub>	0.73 <sub>11</sub>	0.75 <sub>12</sub>	0.77 <sub>12</sub>	0.79 <sub>12</sub>	0.81 <sub>13</sub>	0.84 <sub>13</sub>	0.86 <sub>14</sub>	1.15 <sub>18</sub>	1.41 <sub>22</sub>	1.7 <sub>3</sub>	1.8 <sub>3</sub>	1.9 <sub>3</sub>	1.9 <sub>3</sub>
L <sub>β5</sub>	<b>13.393</b>	<b>13.778</b>	<b>14.168</b>	<b>14.565</b>	<b>14.967</b>	<b>15.375</b>	<b>15.790</b>	<b>16.209</b>	<b>16.639</b>	<b>17.069</b>	<b>17.505</b>	<b>17.950</b>	<b>18.399</b>	<b>18.853</b>
	0.099 <sub>15</sub>	0.108 <sub>17</sub>	0.119 <sub>18</sub>	0.129 <sub>20</sub>	0.144 <sub>22</sub>	0.148 <sub>23</sub>	0.159 <sub>25</sub>	0.17 <sub>3</sub>	0.23 <sub>4</sub>	0.30 <sub>5</sub>	0.42 <sub>7</sub>	0.39 <sub>6</sub>	0.42 <sub>7</sub>	0.44 <sub>7</sub>
L <sub>β6</sub>	<b>12.480</b>	<b>12.823</b>	<b>13.169</b>	<b>13.520</b>	<b>13.877</b>	<b>14.236</b>	<b>14.601</b>	<b>14.970</b>	<b>15.350</b>	<b>15.727</b>	<b>16.109</b>	<b>16.498</b>	<b>16.890</b>	<b>17.286</b>
	0.045 <sub>7</sub>	0.047 <sub>7</sub>	0.049 <sub>8</sub>	0.051 <sub>8</sub>	0.053 <sub>8</sub>	0.055 <sub>9</sub>	0.058 <sub>9</sub>	0.060 <sub>9</sub>	0.081 <sub>13</sub>	0.101 <sub>16</sub>	0.120 <sub>19</sub>	0.13 <sub>2</sub>	0.138 <sub>22</sub>	0.141 <sub>22</sub>
L <sub>γ1</sub>	<b>15.248</b>	<b>15.742</b>	<b>16.249</b>	<b>16.770</b>	<b>17.302</b>	<b>17.848</b>	<b>18.405</b>	<b>18.980</b>	<b>19.571</b>	<b>20.169</b>	<b>20.784</b>	<b>21.420</b>	<b>22.072</b>	<b>22.735</b>
	6.4 <sub>4</sub>	6.7 <sub>4</sub>	7.1 <sub>4</sub>	7.4 <sub>4</sub>	7.7 <sub>5</sub>	8.0 <sub>5</sub>	8.3 <sub>5</sub>	8.6 <sub>5</sub>	8.5 <sub>9</sub>	8.5 <sub>9</sub>	8.6 <sub>9</sub>	8.6 <sub>9</sub>	8.8 <sub>9</sub>	9.0 <sub>9</sub>
L <sub>γ6</sub>	<b>15.685</b>	<b>16.203</b>	<b>16.735</b>	<b>17.280</b>	<b>17.839</b>	<b>18.412</b>	<b>18.997</b>	<b>19.599</b>	<b>20.217</b>	<b>20.844</b>	<b>21.491</b>	<b>22.153</b>	<b>22.836</b>	<b>23.527</b>
	1.18 <sub>11</sub>	1.30 <sub>12</sub>	1.40 <sub>13</sub>	1.51 <sub>14</sub>	1.61 <sub>15</sub>	1.70 <sub>16</sub>	1.77 <sub>17</sub>	1.84 <sub>23</sub>	1.82 <sub>23</sub>	1.81 <sub>23</sub>	1.81 <sub>23</sub>	1.81 <sub>23</sub>	1.84 <sub>23</sub>	1.87 <sub>24</sub>
L <sub>η</sub>	<b>11.712</b>	<b>12.085</b>	<b>12.466</b>	<b>12.855</b>	<b>13.255</b>	<b>13.662</b>	<b>14.082</b>	<b>14.511</b>	<b>14.953</b>	<b>15.400</b>	<b>15.861</b>	<b>16.333</b>	<b>16.819</b>	<b>17.314</b>
	0.71 <sub>4</sub>	0.75 <sub>4</sub>	0.78 <sub>4</sub>	0.82 <sub>4</sub>	0.85 <sub>5</sub>	0.88 <sub>5</sub>	0.91 <sub>5</sub>	0.95 <sub>10</sub>	0.94 <sub>10</sub>	0.94 <sub>10</sub>	0.95 <sub>10</sub>	0.95 <sub>10</sub>	0.97 <sub>10</sub>	0.99 <sub>10</sub>
L <sub>ι</sub>	<b>9.420</b>	<b>9.658</b>	<b>9.897</b>	<b>10.137</b>	<b>10.381</b>	<b>10.622</b>	<b>10.871</b>	<b>11.118</b>	<b>11.372</b>	<b>11.620</b>	<b>11.871</b>	<b>12.124</b>	<b>12.377</b>	<b>12.633</b>
	0.16 <sub>3</sub>	0.17 <sub>3</sub>	0.18 <sub>3</sub>	0.18 <sub>3</sub>	0.19 <sub>3</sub>	0.20 <sub>3</sub>	0.21 <sub>4</sub>	0.22 <sub>4</sub>	0.29 <sub>5</sub>	0.36 <sub>6</sub>	0.43 <sub>8</sub>	0.47 <sub>8</sub>	0.50 <sub>9</sub>	0.51 <sub>9</sub>
	<sup>97</sup> Bk	<sup>98</sup> Cf	<sup>99</sup> Es	<sup>100</sup> Fm	<sup>101</sup> Md	<sup>102</sup> No	<sup>103</sup> Lr	<sup>104</sup> Rf						
L <sub>α1</sub>	<b>15.308</b>	<b>15.660</b>	<b>16.016</b>	<b>16.377</b>	<b>16.741</b>	<b>17.110</b>	<b>17.483</b>	<b>17.893</b>						
	7.1 <sub>11</sub>	7.1 <sub>11</sub>	7.2 <sub>11</sub>	7.2 <sub>15</sub>	7.2 <sub>15</sub>	7.2 <sub>15</sub>	7.1 <sub>15</sub>	7.0 <sub>15</sub>						
L <sub>α2</sub>	<b>15.082</b>	<b>15.423</b>	<b>15.767</b>	<b>16.116</b>	<b>16.467</b>	<b>16.823</b>	<b>17.183</b>	<b>17.571</b>						
	0.79 <sub>12</sub>	0.80 <sub>13</sub>	0.81 <sub>13</sub>	0.81 <sub>17</sub>	0.81 <sub>17</sub>	0.81 <sub>17</sub>	0.80 <sub>17</sub>	0.79 <sub>16</sub>						
L <sub>β1</sub>	<b>20.018</b>	<b>20.624</b>	<b>21.248</b>	<b>21.889</b>	<b>22.549</b>	<b>23.227</b>	<b>23.927</b>	<b>24.650</b>						
	36 <sub>4</sub>	37 <sub>4</sub>	37 <sub>4</sub>	38 <sub>4</sub>	38 <sub>4</sub>	39 <sub>4</sub>	39 <sub>4</sub>	40 <sub>4</sub>						
L <sub>β2,15</sub>	<b>18.509</b>	<b>18.946</b>	<b>19.387</b>	<b>19.834</b>	<b>20.286</b>	<b>20.744</b>	<b>21.207</b>	<b>21.716</b>						
	1.9 <sub>3</sub>	1.9 <sub>3</sub>	2.0 <sub>3</sub>	2.0 <sub>4</sub>	2.0 <sub>4</sub>	2.0 <sub>4</sub>	2.0 <sub>4</sub>	2.0 <sub>4</sub>						
L <sub>β5</sub>	<b>19.312</b>	<b>19.777</b>	<b>20.249</b>	<b>20.727</b>	<b>21.210</b>	<b>21.700</b>	<b>22.195</b>	<b>22.727</b>						
	0.45 <sub>7</sub>	0.46 <sub>7</sub>	0.47 <sub>7</sub>	0.48 <sub>10</sub>	0.49 <sub>10</sub>	0.49 <sub>10</sub>	0.50 <sub>10</sub>	0.5 <sub>1</sub>						
L <sub>β6</sub>	<b>17.687</b>	<b>18.094</b>	<b>18.501</b>	<b>18.916</b>	<b>19.332</b>	<b>19.754</b>	<b>20.179</b>	<b>20.670</b>						
	0.145 <sub>23</sub>	0.149 <sub>23</sub>	0.153 <sub>24</sub>	0.16 <sub>3</sub>	0.16 <sub>3</sub>	0.16 <sub>3</sub>	0.16 <sub>3</sub>	0.16 <sub>3</sub>						
L <sub>γ1</sub>	<b>23.416</b>	<b>24.117</b>	<b>24.836</b>	<b>25.574</b>	<b>26.333</b>	<b>27.110</b>	<b>27.911</b>	<b>28.753</b>						
	9.2 <sub>10</sub>	9.4 <sub>10</sub>	9.5 <sub>10</sub>	9.8 <sub>10</sub>	10 <sub>1</sub>	10.2 <sub>11</sub>	10.5 <sub>11</sub>	10.7 <sub>11</sub>						
L <sub>γ6</sub>	<b>24.241</b>	<b>24.971</b>	<b>25.723</b>	<b>26.492</b>	<b>27.284</b>	<b>28.094</b>	<b>28.929</b>	<b>29.796</b>						
	1.93 <sub>25</sub>	1.98 <sub>25</sub>	2.0 <sub>3</sub>	2.1 <sub>3</sub>	2.2 <sub>3</sub>	2.3 <sub>3</sub>	2.4 <sub>3</sub>	2.5 <sub>3</sub>						
L <sub>η</sub>	<b>17.826</b>	<b>18.347</b>	<b>18.884</b>	<b>19.433</b>	<b>19.998</b>	<b>20.577</b>	<b>21.173</b>	<b>21.825</b>						
	1.01 <sub>10</sub>	1.02 <sub>10</sub>	1.04 <sub>11</sub>	1.06 <sub>11</sub>	1.08 <sub>11</sub>	1.11 <sub>11</sub>	1.13 <sub>12</sub>	1.16 <sub>12</sub>						
L <sub>ι</sub>	<b>12.890</b>	<b>13.146</b>	<b>13.403</b>	<b>13.660</b>	<b>13.916</b>	<b>14.173</b>	<b>14.429</b>	<b>14.746</b>						
	0.53 <sub>9</sub>	0.54 <sub>10</sub>	0.56 <sub>10</sub>	0.57 <sub>13</sub>	0.58 <sub>13</sub>	0.59 <sub>13</sub>	0.59 <sub>13</sub>	0.59 <sub>13</sub>						

**Table 7d. X-ray Energies and Intensities (per 100 L<sub>3</sub>-Shell Vacancies)**

	<sup>21</sup> Sc	<sup>22</sup> Ti	<sup>23</sup> V	<sup>24</sup> Cr	<sup>25</sup> Mn	<sup>26</sup> Fe	<sup>27</sup> Co	<sup>28</sup> Ni	<sup>29</sup> Cu	<sup>30</sup> Zn	<sup>31</sup> Ga	<sup>32</sup> Ge	<sup>33</sup> As	<sup>34</sup> Se
L <sub>α1</sub>	<b>0.396</b>	<b>0.452</b>	<b>0.511</b>	<b>0.572</b>	<b>0.637</b>	<b>0.704</b>	<b>0.776</b>	<b>0.851</b>	<b>0.929</b>	<b>1.012</b>	<b>1.098</b>	<b>1.188</b>	<b>1.282</b>	<b>1.379</b>
	0.038 <sub>10</sub>	0.094 <sub>24</sub>	0.19 <sub>5</sub>	0.29 <sub>7</sub>	0.39 <sub>10</sub>	0.51 <sub>13</sub>	0.63 <sub>16</sub>	0.77 <sub>19</sub>	0.92 <sub>23</sub>	1.01 <sub>20</sub>	1.10 <sub>22</sub>	1.3 <sub>3</sub>	1.4 <sub>3</sub>	1.5 <sub>3</sub>
L <sub>α2</sub>	<b>0.396</b>	<b>0.452</b>	<b>0.511</b>	<b>0.572</b>	<b>0.637</b>	<b>0.704</b>	<b>0.776</b>	<b>0.851</b>	<b>0.929</b>	<b>1.012</b>	<b>1.098</b>			

**Table 7d. X-ray Energies and Intensities (per 100 L<sub>3</sub>-Shell Vacancies) (continued)**

	35Br	36Kr	37Rb	38Sr	39Y	40Zr	41Nb	42Mo	43Tc	44Ru	45Rh	46Pd	47Ag	48Cd
L <sub>α1</sub>	1.481 1.7 3	1.581 1.9 4	1.694 2.1 4	1.806 2.2 5	1.923 2.4 5	2.042 2.7 4	2.166 2.9 4	2.293 3.1 5	2.424 3.2 5	2.558 3.4 5	2.697 3.6 6	2.839 3.8 6	2.984 4.0 6	3.134 4.3 7
L <sub>α2</sub>	1.480 0.19 4	1.580 0.21 4	1.693 0.23 5	1.805 0.25 5	1.920 0.27 5	2.040 0.29 5	2.163 0.32 5	2.290 0.34 5	2.420 0.36 5	2.554 0.38 6	2.692 0.40 6	2.833 0.43 7	2.978 0.45 7	3.127 0.48 7
L <sub>β2,15</sub>					2.078 0.0070 14	2.219 0.018 3	2.367 0.088 13	2.518 0.159 24	2.675 0.24 4	2.836 0.32 5	3.001 0.38 6	3.172 0.45 7	3.348 0.52 8	3.528 0.61 9
L <sub>β6</sub>	1.523 0.0082 16	1.647 0.0094 19	1.775 0.0109 22	1.902 0.0125 25	2.035 0.014 3	2.171 0.0159 24	2.312 0.017 3	2.458 0.019 3	2.609 0.020 3	2.763 0.022 3	2.923 0.024 4	3.087 0.025 4	3.256 0.027 4	3.430 0.030 5
L <sub>I</sub>	1.293 0.094 20	1.383 0.099 21	1.482 0.105 23	1.582 0.110 24	1.686 0.115 25	1.792 0.124 21	1.902 0.130 22	2.016 0.135 23	2.133 0.141 24	2.253 0.147 25	2.377 0.15 3	2.503 0.16 3	2.634 0.17 3	2.767 0.17 3
	49In	50Sn	51Sb	52Te	53I	54Xe	55Cs	56Ba	57La	58Ce	59Pr	60Nd	61Pm	62Sm
L <sub>α1</sub>	3.287 4.6 7	3.444 4.9 5	3.605 5.2 5	3.769 5.5 6	3.938 5.9 6	4.106 6.3 6	4.286 6.7 7	4.466 7.1 7	4.651 7.6 8	4.840 8.1 8	5.033 8.6 9	5.230 9.1 5	5.432 9.6 5	5.636 10.1 5
L <sub>α2</sub>	3.279 0.51 8	3.435 0.54 6	3.595 0.58 6	3.759 0.61 6	3.926 0.65 7	4.093 0.70 7	4.272 0.74 8	4.451 0.79 8	4.634 0.84 9	4.822 0.90 9	5.013 0.95 10	5.208 1.01 5	5.408 1.07 6	5.610 1.12 6
L <sub>β2,15</sub>	3.714 0.71 11	3.905 0.78 8	4.101 0.88 9	4.302 1.00 10	4.508 1.10 12	4.714 1.22 13	4.934 1.34 14	5.156 1.47 15	5.384 1.59 17	5.613 1.70 18	5.851 1.82 19	6.090 1.94 11	6.339 2.04 12	6.587 2.14 13
L <sub>β5</sub>									5.483 0.0159 16					
L <sub>β6</sub>	3.608 0.032 5	3.792 0.035 4	3.980 0.038 4	4.173 0.042 4	4.371 0.045 5	4.569 0.050 5	4.781 0.054 6	4.994 0.059 6	5.212 0.064 7	5.434 0.069 7	5.660 0.074 8	5.893 0.080 4	6.128 0.087 5	6.370 0.094 5
L <sub>I</sub>	2.905 0.18 3	3.045 0.194 25	3.189 0.21 3	3.335 0.22 3	3.485 0.23 3	3.634 0.25 3	3.795 0.27 3	3.954 0.28 4	4.121 0.31 4	4.289 0.33 4	4.453 0.35 5	4.633 0.38 4	4.809 0.40 4	4.993 0.42 4
	63Eu	64Gd	65Tb	66Dy	67Ho	68Er	69Tm	70Yb	71Lu	72Hf	73Ta	74W	75Re	76Os
L <sub>α1</sub>	5.846 10.7 6	6.058 11.3 6	6.273 12.0 7	6.495 12.7 7	6.720 13.3 7	6.949 14.1 8	7.180 14.7 8	7.416 15.3 7	7.656 15.9 7	7.899 16.5 7	8.146 17.3 8	8.398 18.0 8	8.652 18.8 8	8.911 19.6 9
L <sub>α2</sub>	5.816 1.19 6	6.026 1.25 7	6.239 1.33 7	6.458 1.41 8	6.680 1.48 8	6.905 1.56 8	7.133 1.64 9	7.367 1.71 8	7.605 1.78 8	7.844 1.85 8	8.088 1.93 9	8.335 2.02 9	8.586 2.11 9	8.840 2.19 10
L <sub>β2,15</sub>	6.844 2.25 13	7.102 2.35 14	7.367 2.47 14	7.636 2.61 15	7.910 2.69 16	8.186 2.81 16	8.468 2.90 17	8.752 2.96 15	9.044 3.22 16	9.342 3.52 18	9.646 3.80 19	9.955 4.09 20	10.268 4.33 22	10.590 4.59 23
L <sub>β5</sub>		7.243 0.0192 10							9.240 0.0190 9	9.554 0.0495 22	9.875 0.069 3	10.201 0.090 4	10.532 0.171 8	10.871 0.259 12
L <sub>β6</sub>	6.617 0.103 6	6.867 0.112 6	7.116 0.122 7	7.374 0.133 7	7.635 0.144 8	7.909 0.157 9	8.176 0.168 9	8.456 0.179 8	8.738 0.189 8	9.023 0.200 9	9.316 0.212 10	9.612 0.225 10	9.910 0.246 11	10.217 0.268 12
L <sub>I</sub>	5.177 0.45 4	5.362 0.47 5	5.546 0.51 5	5.743 0.54 5	5.943 0.57 5	6.151 0.61 6	6.341 0.65 6	6.545 0.68 6	6.753 0.72 6	6.960 0.76 7	7.173 0.81 7	7.387 0.86 8	7.604 0.91 8	7.822 0.97 9
	77Ir	78Pt	79Au	80Hg	81Tl	82Pb	83Bi	84Po	85At	86Rn	87Fr	88Ra	89Ac	90Th
L <sub>α1</sub>	9.175 20.4 9	9.443 21.1 10	9.713 22.0 10	9.989 22.8 8	10.268 23.7 9	10.551 24.4 9	10.839 25.2 9	11.130 26.0 9	11.426 26.8 10	11.726 27.5 10	12.031 28.2 10	12.339 29 1	12.651 29.8 11	12.968 30.6 14
L <sub>α2</sub>	9.099 2.28 10	9.362 2.37 11	9.628 2.46 11	9.899 2.55 9	10.172 2.65 10	10.450 2.74 10	10.731 2.83 10	11.016 2.91 10	11.306 3.00 11	11.598 3.08 11	11.896 3.16 11	12.196 3.25 12	12.500 3.34 12	12.809 3.42 15
L <sub>β2,15</sub>	10.912 4.83 24	11.242 5.07 25	11.576 5.3 3	11.915 5.58 24	12.261 5.82 25	12.611 6.1 3	12.967 6.3 3	13.328 6.5 3	13.694 6.8 3	14.066 7.0 3	14.443 7.3 3	14.825 7.5 3	15.212 7.8 3	15.605 8.0 4
L <sub>β5</sub>	11.211 0.337 15	11.562 0.418 19	11.916 0.506 23	12.275 0.597 22	12.643 0.688 25	13.015 0.79 3	13.393 0.88 3	13.778 0.97 4	14.168 1.07 4	14.565 1.17 4	14.967 1.32 5	15.375 1.37 5	15.790 1.48 5	16.209 1.58 7
L <sub>β6</sub>	10.525 0.286 13	10.840 0.302 13	11.160 0.321 14	11.481 0.342 12	11.812 0.362 13	12.142 0.381 14	12.480 0.401 15	12.823 0.422 15	13.169 0.442 16	13.520 0.462 17	13.877 0.486 18	14.236 0.511 18	14.601 0.533 19	14.970 0.556 25
L <sub>I</sub>	8.042 1.03 9	8.266 1.09 10	8.494 1.15 10	8.722 1.22 10	8.953 1.29 11	9.184 1.36 12	9.420 1.44 12	9.658 1.51 13	9.897 1.58 13	10.137 1.65 14	10.381 1.73 15	10.622 1.82 15	10.871 1.91 16	11.118 2.00 18
	91Pa	92U	93Np	94Pu	95Am	96Cm	97Bk	98Cf	99Es	100Fm	101Md	102No	103Lr	104Rf
L <sub>α1</sub>	13.291 31.3 14	13.618 32.1 14	13.946 32.6 15	14.282 33.5 15	14.620 34.2 15	14.961 35.0 16	15.308 35.6 16	15.660 36.2 16	16.016 36.7 16	16.377 37.2 20	16.741 37.7 20	17.110 38.1 20	17.483 38.5 21	17.893 38.8 21
L <sub>α2</sub>	13.127 3.51 16	13.442 3.59 16	13.761 3.66 16	14.087 3.76 17	14.414 3.83 17	14.746 3.92 17	15.082 3.99 18	15.423 4.05 18	15.767 4.11 18	16.116 4.17 22	16.467 4.22 23	16.823 4.27 23	17.183 4.31 23	17.571 4.35 23
L <sub>β2,15</sub>	16.008 8.2 4	16.410 8.5 4	16.817 8.7 4	17.235 9.0 5	17.655 9.2 5	18.081 9.4 5	18.509 9.6 5	18.946 9.8 5	19.387 10.0 5	19.834 10.2 6	20.286 10.4 6	20.744 10.6 6	21.207 10.8 6	21.716 11.0 6
L <sub>β5</sub>	16.639 1.69 8	17.069 1.79 8	17.505 2.20 10	17.950 1.99 9	18.399 2.08 9	18.853 2.19 10	19.312 2.27 10	19.777 2.34 10	20.249 2.41 11	20.727 2.48 13	21.210 2.55 14	21.700 2.62 14	22.195 2.70 15	22.727 2.77 15
L <sub>β6</sub>	15.350 0.58 3	15.727 0.61 3	16.109 0.63 3	16.498 0.65 3	16.890 0.68 3	17.286 0.70 3	17.687 0.73 3	18.094 0.76 3	18.501 0.78 4	18.916 0.80 4	19.332 0.83 5	19.754 0.85 5	20.179 0.87 5	20.670 0.90 5
L <sub>I</sub>	11.372 2.09 19	11.620 2.18 19	11.871 2.25 20	12.124 2.35 21	12.377 2.46 22	12.633 2.57 23	12.890 2.67 24	13.146 2.76 25	13.403 2.9 3	13.660 2.9 3	13.916 3.0 3	14.173 3.1 3	14.429 3.2 3	14.746 3.3 3