BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
AGS-16C3F 30 mg (Astellas) (F)(PFL) do not shake no preservative[1]	5.1 mL SWI[1] swirl gently; do NOT shake[1] allow foam to clear before proceeding[1] record time of reconstitution	6 mg/mL[1]	discard unused portion[1] (PFL)[1]	≥ 0.3 mg/mL[1] 100 mL D5W[2,3] mix by gentle inversion[1]	complete administration within 6 h RT of reconstitution[1] **(PFL)	- unopened vials may be kept at RT for up to 4h prior to use if protected from light[1]
Aldesleukin 22 million units (1.3 mg) (Novartis) (F)(PFL) no preservative[4]	1.2 mL SWI[4,5] direct diluent against side of vial during reconstitution[4] do NOT shake[4]	18 million unit/mL (1.1 mg/mL)[4,5]	48 h **F**[4]	50 mL D5W[4] 30 – 70 mcg/mL[4] Less than 30 mcg/mL: dilute in D5W containing human albumin 0.1%[5]	48 h **F**[4]	- do not use in-line filter[4,5] - avoid bacteriostatic water for injection or NS due to increased aggregation[4]
				SC syringe[6,7]	14 d F[7] **(PFL)	

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Alemtuzumab 30 mg/mL (Genzyme/Bayer)[8] (F)(PFL) do not shake no preservative[9]	N/A	filter NOT required[9] 30 mg/mL[9]	discard unused portion[9]	SC syringe[10]	discard at the end of the day **F,** RT	- do NOT shake[11]
				100 mL **NS,** D5W[9]	8 h **F,** RT[9] **(PFL)[11]	
Amsacrine 75 mg/1.5 mL (Erfa Canada) (RT) no preservative[12]	glass syringes preferred during reconstitution; max. time in plastic syringe[12]: 15 min 13.5 mL supplied diluent (L-lactic acid)[1] transfer 1.5mL from ampoule into the diluent vial[12]	5 mg/mL[12]	24 h RT[12] (**PFL)[12]	500 mL D5W[12] (plastic or glass container)[12]	7 d **F**, 48 h RT[12-14]	- contains DMA***
Arsenic trioxide 10 mg/10 mL (Lundbeck/Teva) (RT) no preservative[15]	N/A	1 mg/mL[15] (use filter needle to withdraw from ampoule)	discard unused portion[15]	100-250 mL **NS**, D5W[15]	24 h RT, 48 h **F**[15]	

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Asparaginase (asparaginase E. coli) 10,000 units (CGF/EUSA) (F) no preservative[16]	4 mL SWI[16] do NOT shake; rotate gently[16]	2500 units/mL	72 h F, 3 h RT[16]	syringe	complete administration within 72 h F, 3 h RT[16]	
				50-250 mL **NS** or D5W[17]	complete administration within 3 h RT[16,18]	
Erwinia asparaginase (asparaginase *Erwinia* chrysanthemi) 10,000 units (CGF/EUSA) (F) no preservative[19]	1-2 mL NS[19] do NOT shake; mix gently to minimize bubbles and contact with stopper[19]	10 000-5000 units/mL (use 5 micron filter needle to withdraw from vial)[20]	15 min RT[19]	glass or polypropylene syringe[19]	4 h RT[19]	- contact with the rubber stopper may denature the reconstituted drug, creating filaments of insoluble material[19] - discard if particulate matter is present[20] - do not use sterile water for reconstitution as the resulting product is not isotonic[19]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
PEG-asparaginase - see pegaspargase in L-Z chart (pegylated asparaginase E. *coli*)						
Atezolizumab 1200 mg/20 mL (Hoffman-La Roche) (F)(PFL) do not shake no preservative[21]	N/A	60 mg/mL[21]	discard unused portion[21]	250 mL **NS** only[22] mix by slow inversion[22]	complete administration within 24 h F, 8 h RT[21]	- discard vial if cloudy, discoloured (should be clear to pale yellow), or visible particles[22] - do NOT shake[22]
Avelumab 200 mg/10 mL (EMD) (F)(PFL) no preservative[23]	N/A	20 mg/mL[23]	discard unused portion[18] if refrigerated, bring vial to RT prior to use[23]	250 mL **NS**, 0.45% sodium chloride[23] mix by gentle inversion[23]	complete administration within 24 h F, 8 h RT[23] if refrigerated, bring bag to RT prior to administration[23]	- do NOT shake[23] - use 0.2 micron in-line filter to administer[23]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
azaCITIDine 100 mg (Celgene) (RT) no preservative[24]	4 mL SWI[24] shake vigorously[24] record time of reconstitution	25 mg/mL[24]	45 min RT, 8 h **F**[24]	SC syringe[24]	45 min RT (including preparation time), 8 h **F**[24] refrigerate syringe immediately after preparation if not to be used within 45 minutes of reconstitution[25]	- discard if contains large particles[24] - re-suspend syringe contents before injection by vigorously rolling syringe between palms[24] -if cold diluent reconstitution is used to extend stability, minimize exposure to RT; ensure proper refrigeration of diluent, reconstituted vial, and final product
	cold diluent reconstitution: 4 mL SWI at 2-8°C[26,27]	25 mg/mL[24]	22 h **F**[26,27]		22 h **F**[26,27]	
					Refrigerated syringes[24]: • allow up to 30 min prior to administration to reach a temperature of ~20-25°C • discard syringe if time elapsed at RT is greater than 30 min	

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
azaCITIDine 100 mg (Dr. Reddy's) (RT) no preservative[28]	4 mL SWI[28] shake vigorously[28]	25 mg/mL[28]	45 min RT, 8 h F[28]	SC syringe[28]	45 min RT (including preparation time), 8 h F[28] refrigerate syringe immediately after preparation if not to be used within 45 minutes of reconstitution[28] **Refrigerated syringes[28]**: • allow up to 30 min prior to administration to reach a temperature of approximately 20-25°C • discard syringe if time elapsed at RT is greater than 30 min	- do not filter[28] - discard if contains large particles[28] - re-suspend syringe contents before injection by vigorously rolling syringe between palms[28]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
BCG (Tice substrain) <u>intravesical</u> 50 mg = 1 to 8 x 10^8 CFU (Merck Canada) (F)(PFL) no preservative[29]	1 mL preservative-free NS[29] allow to stand for a few minutes, then gently swirl to suspend[29] record time of reconstitution	1 to 8×10^8 CFU/vial[29]	2 h **F**[29] **(PFL)[29]	transfer from vial to 60 mL syringe, rinse vial with another 1 mL NS; add rinse to same 60 mL syringe and qs to 50 mL with NS[29] if a closed system transfer device is used: transfer from vial to 60 mL syringe and qs to 50 mL with NS; do NOT rinse vial[29]	use within 2 h **F** of reconstitution[29,30] **(PFL)[29]	- auxiliary info: biohazard[30] - do NOT filter[29] - do NOT shake[29]
BCG (Tice substrain) <u>intravesical</u> 50 mg = 1 to 8 x 10^8 CFU (Merck USA) (F)(PFL) no preservative[31]	1 mL preservative free NS[31] allow to stand for a few minutes, then gently swirl to suspend[31] record time of reconstitution	1 to 8×10^8 CFU/vial[31]	2 h **F**[31] (PFL[31]	transfer from vial to 60 mL syringe and qs to 50 mL with NS[31]	use within 2 h **F** of reconstitution[30,31] **(PFL)[31]	- auxiliary info: biohazard[30] - do NOT filter[31] - do NOT shake[31]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
BCG <u>intravesical</u> 81 mg (Sanofi Pasteur) (F)(PFL) preservative[32]	do NOT shake; roll to reconstitute[32] 3 mL supplied diluent[32] record time of reconstitution	10.5 ± 8.7×108 CFU/vial (Connaught strain)[32]	2 h **F**, RT[32]	50 mL NS[32]	2 h **F** or RT after reconstitution[32] **(PFL)[32]	- auxiliary info: biohazard[18]
Belinostat 500 mg (Spectrum) (RT) no preservative[33]	9 mL SWI[33]	50 mg/mL[33]	12 h RT[33]	250 mL NS[33]	complete administration within 36 h RT[33]	- use 0.22 micron inline filter to administer[33]
Bendamustine 25 mg 100 mg (Lundbeck/Teva) (RT,F)(PFL) no preservative[34]	25 mg vial: add 5 mL SWI[34] 100 mg vial: add 20 mL SW[34] shake well; dissolves completely in 5 minutes[34]	5 mg/mL[34]	30 minutes[34]	0.2-0.6 mg/mL **NS**, D2.5-½NS[34] 250* - 500 mL[34]	complete administration within 24 h F, 3 h RT[35]	

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Bevacizumab 100 mg/4 mL 400 mg/16 mL (Roche) (F)(PFL) do not shake no preservative[36]	N/A	25 mg/mL[36]	discard unused portion[36]	1.4-16.5 mg/mL[37] 100-250 mL **NS** only[36,37]	48 h **F**, RT[36-38]	- do NOT shake[36]
Bleomycin 15 units (NB: dose in units only) (Fresenius Kabi) (F)(PFL) no preservative[39]	6 mL* NS[39]	2.5 units/mL	48 h F[39]	50 mL* NS[39]	24 h RT[39]	
Bleomycin 15 units (NB: dose in units only) (Pfizer/Hospira) (F)(PFL) no preservative[40]	6 mL* **NS,** SWI[40]	2.5 units/mL	48 h F, 24 h RT[40]	50 mL* **NS**{14216}}	4 h RT[41]	

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Blinatumomab 38.5 mcg (Amgen) (F)(PFL) do not shake no preservative[42]	3 mL SWI[42] do NOT use supplied IV solution stabilizer to reconstitute vials[42] direct diluent against side of vial during reconstitution[42] gently swirl to avoid excess foaming[42]	12.5 mcg/mL[42]	24 h F, 4 h RT[42]	250 mL NS[42] add supplied IV solution stabilizer to NS bag and gently mix to avoid foaming[42] add reconstituted drug to bag **following** addition of IV solution stabilizer[42]	complete administration within 10 d F, 96 h RT[42]	- use non-DEHP bag and IV administration set[42] - use 0.2 or 0.22 micron in-line filter[42] - prime lines with blinatumomab solution; do NOT use NS
Bortezomib **SC injection** 3.5 mg (Actavis) (RT)(PFL) no preservative[43]	1.4 mL NS[43]	2.5 mg/mL[43]	2 d **F**, RT[44,45]	SC syringe[43]	14 d F, 48 h RT[44,45]	- auxiliary info: WARNING: SUBCUTANEOUS use only. Fatal if given by other routes.
Bortezomib 3.5 mg (Actavis) (RT)(PFL) no preservative[43]	3.5 mL NS[43]	1 mg/mL[43]	2 d **F**, RT[44,45]	IV syringe[43]	14 d F, 48 h RT[44,45]	- auxiliary info: WARNING: INTRAVENOUS use only. Fatal if given by other routes.

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Bortezomib **SC injection** 3.5 mg (Apotex) (RT)(PFL) no preservative[46]	1.4 mL NS[46]	2.5 mg/mL[46]	2d **F**, RT[30,47]	SC syringe[46]	14 d F, 48 h RT[30,47]	- auxiliary info: WARNING: SUBCUTANEOUS use only. Fatal if given by other routes.
Bortezomib 3.5 mg (Apotex) (RT)(PFL) no preservative[46]	3.5 mL NS[46]	1 mg/mL[46]	2d **F**, RT[30,47]	IV syringe[46]	14 d F, 48 h RT[30,47]	- auxiliary info: WARNING: INTRAVENOUS use only. Fatal if given by other routes.
Bortezomib **SC injection** 3.5 mg (Janssen) (RT)(PFL) no preservative[48]	1.4 mL NS[48]	2.5 mg/mL[48]	2 d F, RT[44,45]	SC syringe[48]	14 d F, 48 h RT[44,45]	- auxiliary info: WARNING: SUBCUTANEOUS use only. Fatal if given by other routes.
Bortezomib 3.5 mg (Janssen) (RT)(PFL) no preservative[48]	3.5 mL NS[48]	1 mg/mL[48]	2 d F, RT[44,45]	IV syringe[48]	14 d F, 48 h RT[44,45]	- auxiliary info: WARNING: INTRAVENOUS use only. Fatal if given by other routes.

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Bortezomib **SC injection** 3.5 mg (Teva) (RT)(PFL) no preservative[49]	1.4 mL NS[49]	2.5 mg/mL[49]	2 d F, RT[44,45]	SC syringe[49]	14 d F, 48 h RT[44,45]	- auxiliary info: WARNING: SUBCUTANEOUS use only. Fatal if given by other routes.
Bortezomib 3.5 mg (Teva) (RT)(PFL) no preservative[49]	3.5 mL NS[49]	1 mg/mL[49]	2 d F, RT[44,45]	IV syringe[49]	14 d F, 48 h RT[44,45]	- auxiliary info: WARNING: INTRAVENOUS use only. Fatal if given by other routes.
Brentuximab vedotin 50 mg (GMD/Seattle Genetics) (F)(PFL) no preservative[50]	10.5 mL SWI[50] direct diluent against side of vial during reconstitution[50] do NOT shake[50]	5 mg/mL[50]	24 h **F**[50]	0.4-1.8 mg/mL in **NS**, D5W, Lactated Ringer's 100-250 mL[50]	24 h F[50]	- solution should be clear to slightly opalescent, colorless, and free of visible particulates[50]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Busulfan 60 mg/10 mL (PMS) (F) no preservative[51]	N/A	6 mg/mL[51]	discard unused portion[30,51]	**NS**, D5W (dilute to volume 10 times drug volume to achieve final concentration of ~0.5 mg/mL)[51]	complete administration within 12 h F, 8 h RT[51]	- contains DMA*** - always add busulfan to diluent to mix; do not add diluent to busulfan[51]
Busulfan 60 mg/10 mL (SteriMax) (F) no preservative[52]	N/A	6 mg/mL[52]	discard unused portion[18,52]	**NS**, D5W (dilute to volume 10 times drug volume to achieve final concentration of ~0.5 mg/mL)[52]	in **NS**: complete administration within 12 h F, 8 h RT[52] in D5W: complete administration within 8 h RT[52]	- contains DMA*** - always add busulfan to diluent to mix; do not add diluent to busulfan[52]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Cabazitaxel 60 mg/1.5 mL (sanofi-aventis) (RT) no preservative[53]	supplied diluent: withdraw entire contents of diluent vial and inject into the concentrate vial[53] slowly direct diluent against inside of vial to limit foaming[53] mix by repeated inversions for 45 sec[53] do NOT shake[53] let sit for 5 min[53]	10 mg/mL[53]	1 h RT[53]	0.10 – 0.26 mg/mL **NS**, D5W[53] (e.g., 250 mL*)	complete administration within 48 h F**,** 8 h RT[53]	- concentrate and diluent vials contain overfill[53] - use non-DEHP bag and tubing[53] - use 0.22 micron in-line filter[53] - diluent contains 13% (w/w) ethanol in water[53] - discard if crystallization occurs[53]
CARBOplatin 50 mg/5 mL 150 mg/15 mL 450 mg/45 mL 600 mg/60 mL (Accord) (RT)(PFL) no preservative[54]	N/A	10 mg/mL[54]	discard unused portion[54]	0.5-10 mg/mL[54] **NS**, D5W[54]	24 h F, 8 h RT[54]	- do NOT use aluminum-containing needle, syringe, or tubing[54]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
CARBOplatin 50 mg/5 mL 150 mg/15 mL 450 mg/45 mL 600 mg/60 mL (Omega) (RT)(PFL) no preservative[55]	N/A	10 mg/mL[55]	discard unused portion[55]	0.3-10 mg/mL[55] **NS**, D5W[55]	48 h F[55], 24 h RT[56]	- do NOT use aluminum-containing needle, syringe or tubing[55]
CARBOplatin 50 mg/5 mL 150 mg/15 mL 450 mg/45 mL 600 mg/60 mL (Pfizer/Hospira) (RT)(PFL) no preservative[57]	N/A	10 mg/mL[57]	discard unused portion[57]	0.3-10 mg/mL[57] **NS**, D5W[57]	48 h F[57]	- do NOT use aluminum-containing needle, syringe, or tubing[57]
CARBOplatin 50 mg/5 mL 150 mg/15 mL 450 mg/45 mL (Teva/Novopharm) (RT)(PFL) no preservative[58]	N/A	10 mg/mL[58]	discard unused portion RT[58]	0.5-10 mg/mL[59] **NS**, D5W[58,60,61]	8 h RT[58]	- do NOT use aluminum-containing needle, syringe, or tubing[58]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Carfilzomib 10 mg 30 mg 60 mg (Amgen) (F)(PFL) no preservative[62]	10 mg: 5 mL SWI[62] 30 mg: 15 mL SWI[62] 60 mg: 29 mL SWI[62] direct diluent against side of vial during reconstitution[62] swirl gently; do NOT shake[62] if foaming occurs, allow to settle until clear (about 5 minutes)[62] record time of reconstitution	2 mg/mL[62]	24 h **F**, 4 h RT[62]	50-100 mL **D5W** only[62] do NOT dilute in NS[62]	complete administration within 24 h **F**, 4 h RT after reconstitution[62]	- if a closed system transfer device is not used for compounding, a 21 gauge (or larger gauge) needle is recommended to prevent coring of the vial stopper[62-64]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Carmustine 100 mg (Bristol Labs) (F) no preservative[65]	3 mL diluent (supplied)[65] diluent to reach RT, then dissolve drug with 3 mL diluent; add 27 mL SWI[65] record time of reconstitution	3.3 mg/mL in 10% ethanol[65]	24 h F, 8 h RT[65]	glass[65] or polyolefin container[60] 500 mL **NS** or D5W[65]	24 h F: in glass[65] or polyolefin container[60] use within 4 h of reconstitution RT[65]	- do not use if product has oily droplets[65]
Cemiplimab 250 mg/5 mL 350 mg/7 mL (sanofi) (F)(PFL) do not shake no preservative[66]	N/A	50 mg/mL[66]	discard unused portion[30,66]	1-20 mg/mL **NS**, D5W[66] 50-100* mL[67] mix by gentle inversion	complete administration within 8 h RT, 24 h F[66]	
Cetuximab 100 mg/50 mL 200 mg/100 mL (Imclone/Lilly) (F) do not shake no preservative[68]	N/A	2 mg/mL[68]	12 h F, 8 h RT[68]	syringe[68] evacuated container or bag[68]	12 h F, 8 h RT[68]	- administer using 0.22 micron filter[68]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
CISplatin 10 mg/10 mL 50 mg/50 mL 100 mg/100mL (Accord) (RT)(PFL) no preservative[69]	N/A	1 mg/mL[69]	discard unused portion[30]	Less than or equal to 60 mg: 100 mL* NS Greater than 60 mg: 250 mL* NS 2 L of D5 in one-half or one-third NS containing 37.5 g of mannitol[69]	24 h RT[69]	- do NOT use aluminum-containing needle, syringe or tubing[69]
CISplatin 50 mg/50 mL 100 mg/100mL (Pfizer/Hospira) (RT)(PFL) no preservative[70]	N/A	1 mg/mL[70]	discard unused portion[30]	Less than or equal to 60 mg: 100 mL* NS Greater than 60 mg: 250 mL* NS 2 L of D5 in one-half or one-third NS containing 37.5 g of mannitol[70]	24 h RT[70]	- do NOT use aluminum-containing needle, syringe or tubing[70]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
CISplatin 10 mg/10 mL 50 mg/50 mL 100 mg/100mL (Sandoz) (RT)(PFL) no preservative[71]	N/A	1 mg/mL[71]	48 h RT[71,72]	Less than or equal to 60 mg: 100 mL NS* Greater than 60 mg: 250 mL NS* NS, 0.45% sodium chloride with or without mannitol[73] 2 L of D5 in one-half or one-third NS containing 37.5 g of mannitol[71]	24 h RT[71]	- do NOT use aluminum-containing needle, syringe or tubing[71]
CISplatin 10 mg/10 mL 50 mg/50 mL 100 mg/100mL (Teva) (RT)(PFL) no preservative[74]	N/A	1 mg/mL[74]	discard unused portion[18]	Less than or equal to 60 mg: 100 mL* NS Greater than 60 mg: 250 mL* NS 2 L of D5 in one-half or one-third NS containing 37.5 g of mannitol[74]	24 h RT[74]	- do NOT use aluminum-containing needle, syringe or tubing[74]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Cladribine 10 mg/10 mL (Fresenius Kabi) (F)(PFL) no preservative[75]	N/A	1 mg/mL[75]	discard unused potion[75]	SC syringe[76]	discard end of day[13,75,77]	
				500 mL **NS only** do NOT use D5W	24 h **RT**	
				Cassette: qs to 100 mL with **bacteriostatic NS only** via SIMS DELTEC INC. MEDICATION CASSETTES®[75] filter drug and diluent through 0.22 micron filter as each solution is being introduced into the cassette	at least 7 days[75]	

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Cyclophosphamide 200 mg 500 mg 1000 mg 2000 mg (Baxter) (RT)(PFL) no preservative[78]	200 mg: 10 mL NS 500 mg: 25 mL NS 1000 mg: 50 mL NS 2000 mg: 100 mL NS[78,79]	20 mg/mL[78]	48 h F,[72,78,80] 24 h RT[78]	Less than or equal to 1 g: 100 mL **NS* Greater than 1 g: 250 mL **NS*** high dose in BMT: may need 500 NS* **NS**, D5W, D5NS[78]	72 h F,[78,80] 24 h RT[78]	
Cytarabine 1000 mg/10mL 2000 mg/20mL (Pfizer/Hospira) (RT)(PFL) no preservative[81]	N/A	100 mg/mL[81]	discard unused portion[30,81]	0.1-37.5 mg/mL **NS,** D5W, SWI[81] 100 mL* **NS,** D5W, SWI	10 d F, 48 h RT[81] **(PFL)	
Cytarabine **<u>IT injection</u>** 1000 mg/10mL 2000 mg/20mL (Pfizer/Hospira) (RT)(PFL) no preservative[81]	N/A record time of puncture	100 mg/mL[81]	use within 4 h of initial vial puncture[30]	diluents containing preservatives should **NOT** be used for intrathecal administration[81] qs to 6 mL with preservative free NS[82,83]	use within 4 h of initial vial puncture[30] **(PFL)	- auxiliary info: IT injection[30] - label to include route in full (i.e., INTRATHECAL injection) attached to both syringe and outer ziplock bag[41]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Cytarabine **<u>SC injection</u>** 1000 mg/10mL 2000 mg/20mL (Pfizer/Hospira) (RT)(PFL) no preservative[84]	N/A	100 mg/mL[81]	discard unused portion[30,81]	syringe	10 d F, 48 h RT[81] **(PFL)	
Cytarabine 1000 mg/10mL 2000 mg/20mL (PMS) (RT)(PFL) no preservative[85]	N/A	100 mg/mL[85]	discard unused portion[30,85]	0.1-37.5 mg/mL **NS,** D5W, SWI[85] 100 mL* **NS,** D5W, SWI	10 d F, 48 h RT[85] **(PFL)	
Cytarabine **<u>IT injection</u>** 1000 mg/10mL 2000 mg/20mL (PMS) (RT)(PFL) no preservative[85]	N/A record time of puncture	100 mg/mL[85]	use within 4 h of initial vial puncture[30]	diluents containing preservatives should **NOT** be used for intrathecal administration[85] qs to 6 mL with preservative free NS[82,83]	use within 4 h of initial vial puncture[30] **(PFL)	- auxiliary info: IT injection[30] - label to include route in full (i.e., INTRATHECAL injection) attached to both syringe and outer ziplock bag[41]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Cytarabine **SC injection** 1000 mg/10mL 2000 mg/20mL (PMS) (RT)(PFL) no preservative[85]	N/A	100 mg/mL[85]	discard unused portion[30,85]	syringe	10 d F, 48 h RT[85] **(PFL)	
Dacarbazine 100 mg 200 mg (Abraxis) (F)(PFL) no preservative[86]	100 mg: 9.9 mL SWI[86] 200 mg: 19.7 mL SWI[86]	10 mg/mL[86]	72 h F, 8 h RT[86]	250-1000 mL* **NS,** D5W	24 h F, 8 h RT[86] **(PFL)[60,86]	- protect container from light during storage and administration[87] - overfill unknown
Dacarbazine 200 mg 600 mg (Hospira) (F)(PFL) no preservative[88]	200 mg: 19.7 mL SWI[88] 600 mg: 59.1 mL SWI[88]	10 mg/mL[88]	8 h RT, 48 h F[88] (PFL)[89]	0.19–3.0 mg/mL[13,88] 250-1000 mL* **NS,** D5W	24 h F[88] **(PFL)[87]	- protect container from light during storage and administration[87] - no overfill[89,90]
Dacarbazine 600 mg (Pfizer) (F)(PFL) no preservative[91]	59.1 mL SWI[91]	10 mg/mL[91]	24 h F, 8 h RT[91]	0.19-3.0 mg/mL in D5W or NS[91]	24 h F[91] **(PFL)[87]	- protect container from light during storage and administration[87]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
DACTINomycin 0.5 mg (GMD Pharma for Recordati) (RT)(PFL) no preservative[92]	1.1 mL SWI (preservative-free)[92] do **NOT** use SWI with preservative (may form precipitate)[92]	0.5 mg/mL (500 mcg/mL)[92]	discard unused portion[72]	syringe[92] 10 mcg/mL or greater[92] **NS**, D5W[92,93]	use within 4 h of initial vial puncture[72]	- drug loss reported with some cellulose ester membrane in-line filters[92]
Daratumumab 100 mg/5mL 400 mg/20mL (Janssen) (F)(PFL) do not shake no preservative[94]	N/A	20 mg/mL[94]	discard unused portion[94]	500-1000 mL NS dilute to final volume by withdrawing volume from bag equal to volume of drug to be added[94] mix by gentle inversion[94]	24 h **F,** followed by 15 h infusion (total 39 h)[94] allow bag to come to room temperature, then use immediately[94] **(PFL)	- administer with a 0.22 or 0.2 micron in-line filter[94] - discard if visible particles are observed[94] - complete infusion within 15 hours[94]
DAUNOrubicin 20 mg (Erfa Canada Inc.)[95] (RT)(PFL)[96] no preservative[97]	4 mL SWI[95]	5 mg/mL[95,98]	48 h F, 24 h RT[97]	100-250 mL in isotonic solution e.g., NS[95] no data for D5W[97]	48 h F, 24 h RT[95]	

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
DAUNOrubicin 20 mg (Teva/Novopharm) (RT)(PFL) no preservative[99]	4 mL SWI[99]	5 mg/mL[99]	48 h F, 24 h RT[99] **(PFL)[99]	100-250 mL **NS** or D5W[60]	48 h F, 24 h RT[99] **(PFL)[99]	
Degarelix 80 mg 120 mg (Ferring) (RT) do not shake[100] no preservative[101]	80 mg: 4.2 mL SWI (supplied diluent)[100]	20 mg/mL[100]	2 h RT[100]	SC syringe[100]	2 h RT[100]	
	120 mg: 3 mL SWI (supplied diluent)[100]	40 mg/mL[100]				
	swirl gently; avoid shaking to prevent foam formation[100] reconstitution may take up to 15 min[100]					

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Denosumab (XGEVA) 120 mg/1.7 mL (Amgen) (F)(PFL) do not shake no preservative[102]	N/A	71 mg/mL[102]	discard unused portion[72,102]	SC syringe[102]	use within 4 h of initial puncture[72]	- not interchangeable with PROLIA[102] - do not use if solution is cloudy; trace amounts of translucent to white proteinaceous particles are acceptable[102] - avoid vigorous shaking[102] - bring to room temperature 15-30 minutes prior to administration[102]
Dexrazoxane 250 mg 500 mg (Pfizer) (RT) no preservative[103]	250 mg: 25 mL SWI[103] 500 mg: 50 mL SWI[103]	10 mg/mL[103]	3 h F, 30 min RT[104]	MUST BE FURTHER DILUTED With Lactated Ringers Injection to 1.3 – 3.0 mg/mL[103]	4 h F, 1 h RT[103]	

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Dinutuximab 17.5 mg/5 mL (Unither/United Therapies) (F)(PFL) do not shake no preservative[105]	N/A	3.5 mg/mL[105]	discard unused portion[30]	100 mL NS[105] mix by gentle inversion[105]	initiate infusion within 4 h of dilution; refrigerate bag if not hung immediately[105] complete administration within 24 h of dilution[105]	- do NOT shake[105]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
DOCEtaxel 20 mg/2 mL 80 mg/8 mL 160 mg/16 mL (Pfizer/Hospira) (**F**, RT)(PFL) preservative[106]	N/A	10 mg/mL[106]	20mg/2 mL vial: discard unused portion[18,106] 80 mg/8 mL or 160 mg/16 mL vial[106] (maximum number of punctures: up to 3 doses can be removed when a venting needle is also inserted, i.e., 6 punctures total)[108] 14 d F[18,106] **(PFL)[106]	0.3-0.74 mg/mL[106] 250 mL* **NS,** D5W[106]	complete administration within 14 d F, 48 h RT[18,107,108]	- use non-DEHP bag and IV administration set[106]
DOCEtaxel 20 mg/2 mL 80 mg/8 mL 160 mg/16 mL (Sandoz) (F,RT)(PFL) preservative[109]	N/A	10 mg/mL[109]	14 d **F**, RT[18,110]	0.3-0.74 mg/mL[109] 250 mL* **NS**, D5W[109]	complete administration within 24 h F, 4 h RT[109,111]	- use non-DEHP bag and IV administration set[109]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
DOCEtaxel 20 mg/0.5 mL 80 mg/2 mL (sanofi-aventis) (**F**, RT)(PFL) no preservative[112]	supplied diluent : - if vials were refrigerated, allow to warm for 5 min at RT. Withdraw entire contents of the diluent and inject the entire contents of the syringe into the corresponding concentrate vial. Mix by repeated inversions for 45 sec[112] do NOT shake[112] Let sit for 5 minutes[112]	10 mg/mL[112]	14 d **F,** RT[18,112,113]	0.3-0.74 mg/mL[112] 250 mL **NS,** D5W[112]	complete administration within 4 h **F**,[112] 48 h RT[18,113]	- use non-DEHP bag and IV administration set[112]
DOXOrubicin 10 mg/5 mL 20 mg/10 mL 50 mg/25 mL 200 mg/100 mL (Accord) (F)(PFL) no preservative[114]	N/A	2 mg/mL[114]	8 h[114]	syringe[114]	24 h **F**, RT from initial vial puncture[114]	- for ULYEPOCHR protocol, see entry for EPOCHR (3-in-1solution containing etoposide, DOXOrubicin, vinCRIStine)

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
DOXOrubicin 10 mg 50 mg 150 mg (Hospira) (RT)(PFL) no preservative[115]	10 mg: 5 mL NS, SWI, D5W[115] 50 mg: 25 mL NS, SWI, D5W[115] 150 mg: 75 mL NS, SWI, D5W[115] (NS reconstitution takes longer)[115]	2 mg/mL[115]	48 h F, 24 h RT[13,115]	syringe[115]	48 h F, 24 h RT[13,116]	- for ULYEPOCHR protocol, see entry for EPOCHR (3-in-1solution containing etoposide, DOXOrubicin, vinCRIStine)
DOXOrubicin 10 mg/5 mL 20 mg/10 mL 50 mg/25 mL 200 mg/100 mL (Teva/Novopharm) (F)(PFL) no preservative[117]	N/A record time of puncture	2 mg/mL[117]	8 h[117]	syringe[117]	48 h F, 24 h RT[117] from initial vial puncture	- for ULYEPOCHR protocol, see entry for EPOCHR (3-in-1solution containing etoposide, DOXOrubicin, vinCRIStine)

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
DOXOrubicin 10 mg/5 mL 50 mg/25 mL 200 mg/100 mL (Pfizer) (F) no preservative[118]	N/A	2 mg/mL[118]	discard unused portion[72,118]	syringe[118]	48 h F, 24 h RT[118]	- for ULYEPOCHR protocol, see entry for EPOCHR (3-in-1solution containing etoposide, DOXOrubicin, vinCRIStine)
DOXOrubicin Pegylated Liposomal 20 mg/10 mL (Janssen) (F) no preservative[119]	N/A	2 mg/mL[119]	discard unused portion[119]	Less than 90 mg: 250 mL **D5W** only[119] Greater than or equal to 90 mg: 500mL **D5W** only[119]	24 h F[119]	- do not filter[119]
Durvalumab 120 mg/2.4 mL 500 mg/10 mL (AstraZeneca) (F)(PFL) do not shake no preservative[120]	N/A	50 mg/mL[120]	discard unused portion[120]	1-15 mg/mL NS, D5W[120] (e.g., 100 mL* **NS**, D5W) mix by gentle inversion[120]	24 h F, 4 h RT[120]	- do NOT shake[120] - use 0.2-0.22 micron in-line filter to administer[120]

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Epirubicin 10 mg/5 mL 20 mg/10 mL 50 mg/25 mL 150 mg/75 mL 200 mg/100 mL (Teva/Novopharm) (F)(PFL) no preservative[121]	N/A	2 mg/mL[121]	8 h **F**, RT[121]	syringe[121]	48 h **F**, 24 h RT from initial vial puncture[121]	
Epirubicin 10 mg/5 mL 50 mg/25 mL 200 mg/100 mL (Fresenius Kabi) (F)(PFL) no preservative[122]	N/A record time of puncture	2 mg/mL[122]	8 h[122]	syringe[122]	48 h **F**, 24 h RT from initial vial puncture[122]	
				100 mL*** NS,** D5W	2 d **F**, RT[18,122]	
Epirubicin 10 mg/5 mL 50 mg/25 mL 200 mg/100 mL (Pfizer) (F)(PFL) no preservative[123]	N/A record time of puncture	2 mg/mL[123]	8 h[123]	syringe[123]	48 h **F**, 24 h RT from initial vial puncture[123]	
				100 mL* **NS,** D5W[60]	2 d **F**, RT[124]	

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
EPOCHR (ULYEPOCHR protocol) (RT) no preservative[18,125-128]	see brand specific entries for: DOXOrubicin as applicable	see brand specific entries for: DOXOrubicin, etoposide, vinCRIStine	see brand specific entries for: DOXOrubicin, etoposide, vinCRIStine	etoposide dose ≤125 mg/24 h: in 500 mL NS etoposide dose >125 mg/24 h: in 1000 mL NS	etoposide concentration ≤0.25 mg/mL: complete administration within 72 h RT precipitation occurs at etoposide concentrations >0.25 mg/mL	- final product is a 3-in-1 solution containing etoposide, DOXOrubicin, vinCRIStine (refer to ULYEPOCHR protocol) - use non-DEHP bag and tubing only - use 0.22 micron inline filter
eriBULin 1 mg/2 mL (Eisai Limited) (RT)(PFL)[129] no preservative[18]	N/A	0.5 mg/mL[129]	discard unused portion[18,129]	IV syringe[129]	24 h **F**, 6 h RT[129]	- do not administer through dextrose containing lines[129] - vials contain dehydrated alcohol USP (5% v/v)[129]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Etoposide 100 mg/5 mL 200 mg/10 mL 500 mg/25 mL 1000 mg/50 mL (Sandoz) (RT)(PFL) preservative[130]	N/A	20 mg/mL[130]	14 d RT[130]	0.2-0.4 mg/mL **NS**, D5W[130] 500 mL* **NS,** D5W	**0.2 mg/mL:** 7 d **F**, RT[130] **0.4 mg/mL:** 12 h **F**, RT[130]	- use non-DEHP bag and tubing only - use 0.22 micron in-line filter[131] - for ULYEPOCHR protocol, see entry for EPOCHR (3-in-1solution containing etoposide, DOXOrubicin, vinCRIStine)

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Etoposide 100 mg/5 mL 200 mg/10 mL 500 mg/25 mL 1000 mg/50 mL (Teva/Novopharm) (RT)(PFL) no preservative[132]	N/A	20 mg/mL[132]	discard unused portion[132]	**NS** Stability is concentration dependent	**0.2-0.3 mg/mL:** 7 d **F,**[133] 2 d RT[133,134] **0.4-0.5 mg/mL**: 1 d **F,**[133] 1d RT[133] **0.6-9.0mg/mL**: generally unstable **9.5 mg/mL:** 2 d **F,**[133] 1d RT[133] **10-12 mg/mL:** 7 d **F,**[133] 2 d RT[133,134]	- use non-DEHP bag and tubing only - use 0.22 micron in-line filter[131] - for ULYEPOCHR protocol, see entry for EPOCHR (3-in-1solution containing etoposide, DOXOrubicin, vinCRIStine)
				D5W[132]	4 h RT[132,135]	
Etoposide phosphate (ETOPOPHOS®) 100 mg (BMS) (F)(PFL) no preservative[136]	5 mL NS, D5W, SWI, BWI[136,137]	20 mg/mL[136,137]	48 h F[18,136,137], 24 h RT[136,137],	500 mL* **NS**, D5W[136,137] (do not dilute to less than 0.1 mg/mL)[136,137]	24 h **F**, RT[136,137]	
	10 mL NS, D5W, SWI, BWI[136,137]	10 mg/mL[136,137]				

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Filgrastim (NEUPOGEN®) 300 mcg/1 mL 480 mcg/1.6 mL (Amgen) (F)(PFL) do not shake no preservative[138]	N/A	300 mcg/mL[138]	discard unused portion[18]	SC syringe[138]	14 d F[18,139]	- albumin is added to D5W to prevent filgrastim adsorption to plastic[138] - incompatible with saline[138,140] - do NOT dilute to less than 5 mcg/mL[138]
				50-100 mL **D5W** only[140] in PVC, polyolefin, or glass[138] (for filgrastim concentrations of 5-15 mcg/mL in D5W, add albumin 2 mg/mL)[138]	7 d F, 48 h RT[18,139]	
Fludarabine 50 mg (Berlex) (F) no preservative[141]	2 mL SWI[141]	25 mg/mL[141]	48 h **F,** RT[13,124]	dilute to maximum of 1 mg/mL[141,142] 50-100 mL **NS,** D5W[141]	48 h **F**, RT[13,124]	
Fludarabine 50 mg (Teva/Novopharm) (F) no preservative[143]	N/A	25 mg/mL[143]	discard unused portion[143]	dilute to maximum of 1 mg/mL[143] (e.g., 50-100 mL* **NS,** D5W)	48 h **F**, 24 h RT[143]	

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Fluorouracil 5000 mg/100 mL (Accord) (RT)(PFL) no preservative[144]	N/A	50 mg/mL[144]	48 h RT[18,145]	syringe[144]	48 h RT[18,145]	
				0.5-10 mg/mL[145] (e.g., 50-1000 mL* D5W)	48 h RT[18,145]	
				CIVI: ambulatory pump[146]	complete within 8 d[145]	
Fluorouracil 5000 mg/100 mL (Pfizer/Hospira) (RT)(PFL) no preservative[147]	N/A	50 mg/mL[147]	8 h RT[147]	syringe[147]	8 h RT[30,147]	
				0.5-10 mg/mL[148] (e.g., 50-1000 mL* D5W)	24 h RT[147]	
				CIVI: ambulatory pump[146]	complete within 8 d[13,60,149,150]	

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Fluorouracil 500 mg/10 mL 5000 mg/100 mL (Sandoz) (RT)(PFL) no preservative[151]	N/A	50 mg/mL[151]	48 h RT[30,152]	syringe	48 h RT[30,151]	
				0.35 – 15 mg/mL[152] (300-500 mL D5W)[151]	48 h RT[30,152]	
				CIVI: ambulatory pump[146]	complete within 8 d[13,60,149,150]	
Gemcitabine 200 mg 1000 mg 2000 mg (Accord) (RT) no preservative[153]	200 mg: 5 mL NS[153] 1000 mg: 25 mL NS[153] 2000 mg: 50 mL NS[153]	38 mg/mL[153]	24 h RT[153]	syringe[153]	24 h RT[153]	
				0.1-38 mg/mL NS[153]	48 h RT[18,154,155]	
Gemcitabine 200 mg/5.3 mL 1000 mg/26.3 mL 2000 mg/52.6 mL (Pfizer/Hospira) (F) no preservative[156]	N/A	38 mg/mL[157]	discard unused portion[156]	syringe[157]	24 h RT[156]	
				0.1–38 mg/mL **NS**, D5W[156]		

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Gemcitabine (NOTE: concentration) 200 mg/5 mL 1000 mg/25 mL 2000 mg/50 mL (Sandoz) (F) no preservative[158]	N/A	**40 mg/mL**[158]	discard unused portion[158]	syringe[158] 0.1–40 mg/mL **NS**, D5W[158]	24 h RT[158]	**CAUTION: alternative concentration**
IDArubicin 5 mg 10mg (Pfizer) (RT)(PFL) no preservative[159]	5 mg: 5 mL SWI[159] 10 mg: 10 mL SWI[159] vial contents under negative pressure[159] do NOT use BWI to reconstitute[159]	1 mg/mL[159]	48 h **F**, 24 h RT[159] **(PFL)[159]	syringe[159]	48 h **F**, 24 h RT[159]	- avoid alkaline solutions[159]
IDArubicin PFS 5 mg/5 mL 10 mg/10 mL 20 mg/20 mL (Pfizer) (F)(PFL) no preservative[159]	N/A	1 mg/mL[159]	48 h **F,** 24 h RT, **(PFL)[159]	syringe[159]	4 h from initial puncture[18]	- avoid alkaline solutions[159]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
IDArubicin 5 mg/5 mL 10 mg/10 mL 20 mg/20 mL (Fresenius Kabi**)** (F)(PFL) no preservative[160]	N/A	1 mg/mL[160]	discard unused solution[160]	syringe[160]	4 h from initial puncture[18]	- avoid alkaline solutions[160]
Ifosfamide 1000 mg 3000 mg (Baxter) (RT) no preservative[161]	1000 mg: 20 mL SWI[161] 3000 mg: 60 mL SWI[161] shake well	50 mg/mL[161]	48 h F, 24 h RT[18,161]	0.6–20 mg/mL[161] 500–1000 mL* **NS**, D5W, Lactated Ringer's[161]	72 h F, 24 h RT[161] 24 h **F,** RT when mixed with mesna[60]	
Ifosfamide 1000 mg 3000 mg (Fresenius Kabi) (RT) no preservative[162]	1000 mg: 20 mL SWI[162] 3000 mg: 60 mL SWI[162] shake well	50 mg/mL[162]	48 h F, 24 h RT[18,162]	0.6-20 mg/mL[162] 500-1000 mL*** NS** D5W, Lactated Ringer's[162]	72 h F, 24 h RT[162] 24 h **F,** RT when mixed with mesna[60]	

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Iniparib 100 mg/10 mL (sanofi-aventis) (F) no preservative[163]	N/A	10 mg/mL[163]	discard unused portion[163]	250 mL **NS**, D5W dilute to 250 mL final volume by withdrawing volume from bag equal to volume of drug to be added*[163]	24 h RT[163]	- *may also use empty IV bag and qs to final volume of 250 mL with **NS**, D5W[163]
Inotuzumab ozogamicin 0.9 mg (Pfizer) (F)(PFL) no preservative[164]	4 mL **SWI**[164] gently swirl vial to mix[164]	0.25 mg/mL[164] record time of reconstitution	4 h **F**[164] dilute dose within 4 hours of reconstitution[164] protect from light if not used immediately[165]	0.01 – 0.1 mg/mL NS[164] (50 mL NS)[164] mix by gentle inversion[164]	complete administration within 8 h of reconstitution RT,**F**[164] (PFL)[164] if refrigerated, bring bag to RT over 1 h prior to administration[164]	- do NOT shake[164] - protect container from UV and fluorescent light during storage and administration[164,165] - protect administration line from light ONLY if hang time will be longer than 1 h[164,165]

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Interferon Alfa -2b 10 million units/1 mL (Merck) (F) preservative[166,167]	N/A	10 million units/mL[166]	7 d F[166]	syringe[166]	7 d F[18]	- vials can be kept at RT for up to 7 days before use; discard if not used within this time[166]
				final concentration ≥ 0.3 million IU/mL[166] 50 mL NS[166]	24 h **F**, RT[166]	
Interferon Alfa -2b 18 million units/3 mL (Merck) (F) preservative[166,167]	N/A	6 million units/mL[166]	14 d F[18,166]	syringe[166]	14 d F[18,167]	- vials can be kept at RT for up to 7 days before use; discard if not used within this time[166]
				final concentration ≥ 0.3 million IU/mL[166] 50 mL NS[166]	24 h **F**, RT[166]	
Interferon Alfa -2b 25 million units/2.5 mL (Merck) (F) preservative[166,167]	N/A	10 million units/mL[166]	14 d F[18,166]	syringe[166]	14 d F[18,167]	- vials can be kept at RT for up to 7 days before use; discard if not used within this time[166]
				final concentration ≥ 0.3 million IU/mL[166] 50 mL NS[166]	24 h **F**, RT[166]	

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Interferon Alfa -2b 10 million units (Merck) (F) no preservative (unless reconstituted with BWI)[166]	1 mL supplied diluent (SWI)[166] do NOT shake; roll to reconstitute[166]	10 million units/mL[166]	24 h F[166]	syringe[166]	24 h F[18,167]	- after reconstitution, provides an isotonic solution which may be used for intralesional injection[166] - non-reconstituted vials can be kept at RT for up to 4 weeks before use; discard if not reconstituted for use within this time[166]
				final concentration ≥ 0.1 million IU/mL[166] 100 mL NS[166]	24 h F, RT[167]	
	1 mL BWI[166] do NOT shake; roll to reconstitute[166]		14 d F[18,166]	syringe[166]	14 d F[18,166]	
				final concentration ≥ 0.1 million IU/mL[166] 100 mL NS[166]	24 h F, RT[167]	

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Ipilimumab 50 mg/10 mL 200 mg/40 mL (BMS Canada) (F)(PFL) no preservative[168]	N/A	5 mg/mL[168]	24 h **F**,RT[168]	1 – 4 mg/mL **NS**, D5W[168] OR undiluted in empty viaflex bag or glass bottle (allow vials to stand at RT for ~5 min prior to withdrawal of contents)[168]	24 h **F**,RT[168]	- do NOT shake[168] - administer with 0.2 or 0.22 in-line filter[168] - vials may contain translucent-to-white amorphous particles[168] - discard if cloudy or has pronounced colour change (should be clear to pale yellow)[168]
Irinotecan 40 mg/2 mL 100 mg/5 mL 500 mg/25 mL (Accord) (RT)(PFL) no preservative[169]	N/A	20 mg/mL[169]	discard unused portion[169]	0.12–3 mg/mL **D5W** (preferred), NS [169] 500* mL[60]	48 h F, 24 h RT **(PFL)[169]	
Irinotecan 40 mg/2 mL 100 mg/5 mL 300 mg/15 mL 500 mg/25 mL (Pfizer/Hospira) (RT)(PFL) no preservative[170,171]	N/A	20 mg/mL[170,171]	discard unused portion[170,171]	0.12-3 mg/mL D5W (preferred), NS[170,171] 500* mL[60]	14 d F, 48 h RT[30,170,171] **(PFL)[170,171]	

Activation Date: 2 March 2006
Revised Date: 1 September 2019

BC CANCER CHEMOTHERAPY PREPARATION AND STABILITY CHART						
DRUG & STRENGTH (Storage Prior to Use, Manufacturer, Preservative Status)	**Reconstitute With:**	**To Give:**	**Vial Stability**	**Product**	**Product Stability**	**Special Precautions/Notes**
Irinotecan Liposome 43 mg/10 mL (Servier) (F)(PFL) no preservative[172]	N/A	4.3 mg/mL[172]	discard unused portion[172]	to a final volume of 500 mL with **NS**, D5W[172] mix by gentle inversion[172]	24 h F, 4 h RT[172] **(PFL) (allow product to come to RT prior to administration if stored in F)[172]	- do not use in-line filter[172] - **expressed as irinotecan free base**
Ixabepilone 15 mg (contains 16 mg) 45 mg (contains 47 mg) (BMS) (F)(PFL) no preservative[173]	15 mg: 8 mL supplied diluent[173] 45 mg: 23.5 mL supplied diluent[173]	2 mg/mL[173]	1 h RT[173]	0.2 – 0.6 mg/mL in Lactated Ringer's Injection USP (use non-DEHP infusion container)[173]	6 h RT[173]	- use 0.2-1.2 micron in-line filter[173] - use non-DEHP bag and administration set[173]

* Suggested volume based on usual dose range and any concentration range of stability data
** Protect from light means minimizing exposure to direct sunlight over a *storage* period. More specific information on protection from light (eg, protecting container and tubing during *administration*) will be indicated in the Special Precautions/Notes column.
*** Contains DMA (N,N dimethylacetamide). Product may be incompatible with closed system transfer devices such as ChemoLock.

Centres are not to change the content locally but should forward suggestions to the Cancer Drug Manual staff.

Activation Date: 2 March 2006
Revised Date: 1 September 2019

Explanatory Notes:

Stability data assumes products prepared using standard aseptic technique in biological safety cabinet at low risk for contamination according to the classification outlined in USP 797.[38,174]
Vial stability: Stability of solution after first puncture or reconstituted solution.
Storage temperature: If information states same stability with refrigerator and room temperature storage, then fridge stability is bolded as preferred (ie, to minimize growth of micro-organisms).
Discard unused portion: Unused portion from single use vials should be discarded at the end of the day.
"overfill known" is stated if the manufacturer states overfill that is present is within acceptable limits.
"Complete administration within __" is stated if the manufacturer specifies that the infusion must be completed in a specific time frame following preparation, usually including entire time required for preparation (from first puncture), storage, and administration of infusion.

Abbreviations:

BWI = bacteriostatic water for injection
CIVI: ambulatory pump = Continuous Intravenous Infusion (e.g., elastomeric infusor)
D5W = dextrose 5% in water
DMA = N,N dimethylacetamide
F = refrigerate
Non-DEHP = not containing Di(2-ethylhexyl) phthalate (DEHP)
NS = normal saline
PFL = protect from light
RT = room temperature
SWI = sterile water for injection

References:

1. Agensys. Pharmacy Guide Protocol AGS-16C3F-15-3: A multi-center, open label, randomized phase 2 study of AGS-16C3F vs. axitinib in metastatic renal cell carcinoma. Santa Monica, California; 8 June 2016 - version 2.0.
2. BC Cancer. (Study Code GUT16C3F) Clinical Trial Dispensing Instructions for: A multi-center, open label, randomized phase 2 study of AGS-16C3F vs. aXitinib in metastatic renal cell carcinoma. Vancouver, British Columbia: BC Cancer; 18 April 2018.
3. Laura Standley. Personal communication. Lead Clinical Study Manager, Astellas Pharma Global Development Inc.; 23 January 2019.
4. Novartis Pharmaceuticals Canada Inc. PROLEUKIN® product monograph. Dorval, Quebec; 6 July 2006.
5. McEvoy GK, editor. AHFS 2008 Drug Information. Bethesda, Maryland: American Society of Health-System Pharmacists, Inc. p. 917-925.
6. Koreth J, Matsuoka K, Kim HT, et al. Interleukin-2 and regulatory T cells in graft-versus-host disease. N Engl J Med 2011;365(22):2055-2066.
7. Koreth J, Alyea EP, Cutler C, Ho VT, et al. Clinical Study Protocol: A phase I study of ultra-low dose subcutaneous interleukin-2 (IL-2) for treatment of refractory chronic graft versus host disease. Boston, MA, USA: Dana Farber Cancer Institute; Harvard Medical Centre; 14 Dec 2010.
8. Rui Paiva. Personal communication. Business Unit Director, Transplant and Oncology; 1 June 2009.

9. Bayer HealthCare Pharmaceuticals. MabCampath® Package Insert. Toronto, Ontario; 1 September 2007.
10. Lundin J, Porwit-MacDonald A, Rossmann ED, et al. Cellular immune reconstitution after subcutaneous alemtuzumab (anti-CD52 monoclonal antibody, CAMPATH-1H) treatment as first-line therapy for B-cell chronic lymphocytic leukaemia. Leukemia 22 January 2004(18):484-490.
11. Berlex Canada Inc. Campath Drug Information. San Antonio, Texas; undated.
12. Erfa Canada Inc. AMSA PD® injection product monograph. Westmount, Quebec; 16 August 2005.
13. BC Cancer Agency. Pharmacy Policy Number II-20: Guiding Principles for Chemotherapy Preparation Chart. Vancouver, British Columbia: BC Cancer Agency; 6 January 2006.
14. Tanya Leduc. Personal communication. Acting editor, BC Cancer Agency Cancer Drug Manual; 2 June 2008.
15. Lundbeck Canada Inc. TRISENOX® product monograph. Montreal, Quebec; 6 June 2013.
16. CGF Pharmatec for EUSA Pharma. KIDROLASE® product monograph. Montreal, Quebec; 17 April 2008.
17. Lexi-Drugs® (database on the Internet). Asparaginase (E. coli). Lexi-Comp Inc., 1 July 2015. Available at: http://online.lexi.com. Accessed 25 August 2015.
18. BC Cancer Agency. Pharmacy Policy Number II-20: Guiding Principles for Chemotherapy Preparation Chart. Vancouver, British Columbia: BC Cancer Agency; 19 September 2007.
19. CGF Pharmatec for EUSA Pharma. ERWINASE® for Injection product monograph. Montreal, Quebec; 19 February 2015.
20. Health Canada. MedEffect® e-Notice - Importnat Safety Information on Shortage of Erwinase for Injection. 12 July 2017. Available at: http://www.hc-sc.gc.ca/ahc-asc/media/advisories-avis/. Accessed 12 July 2017.
21. Hoffman-La Roche Limited. TECENTRIQ® product monograph. 7070 Mississauga Road, Ontario; 12 April 2017.
22. Genentech Inc. TECENTRIQ® full prescribing information. South San Francisco, CA, USA; October 2016.
23. EMD Serono. BAVENCIO® product monograph. Mississauga, Ontario; 4 May 2018.
24. Celgene Inc. VIDAZA® product monograph. Mississauga, Ontario; 17 May 2012.
25. Kevin Mejo. Personal communication. Medical Information, Celgene Inc.; 21 June 2017.
26. Tutino A, Lai M. Cold water reconstitution of Vidaza with subsequent refrigerated storage prolongs drug stability. Eur J Oncol Pharm 2011;5(3-4):24-25, 34.
27. Celgene Corporation. VIDAZA® full prescribing information. Summit, NJ, USA; December 2012.
28. Dr. Reddy's Laboratories Limited. Azacitidine for injection product monograph. Mississauga, Ontario; 19 April 2017.
29. Merck Canada Inc. OncoTICE® product monograph. Kirkland, Quebec; 29 April 2019.
30. BC Cancer. Provincial Pharmacy Directive Number II-20: Chemotherapy Preparation Chart. Vancouver, British Columbia: BC Cancer; 5 December 2018.
31. Merck & Co. Inc. TICE® BCG full prescribing information. Whitehouse Station, New Jersey, USA; March 2019.
32. Repchinsky C editor. ImmuCyst monograph, Compendium of Pharmaceuticals and Specialties. Ottawa, Ontario; 2005.
33. Spectrum Pharmaceuticals Inc. BELEODAQ® full prescribing information. Irvine, CA, USA; April 2012.
34. Teva Canada Limited. TREANDA® product monograph. Toronto, Ontario; 10 January 2018.
35. Lundbeck Canada Inc. TREANDA® product monograph. Montreal, Quebec; 22 August 2012.
36. Roche. Bevacizumab for injection, Summary product information. Mississauga, Ontario; 2005.
37. Hoffmann-La Roche Limited. Ro 4876647 Avastin Investigator's Brochure. Mississauga, Ontario; 14th edition, November 2006.
38. The United States Pharmacopeia (USP). General Chapter 797: Pharmaceutical compounding - sterile preparations. USP 27-NF 22. Rockville, Maryland: The United States Pharmacopeial Convention, Inc.; 2004.
39. Fresenius Kabi Canada Ltd. Bleomycin for injection product monograph. Richmond Hill, Ontario; 1 June 2016.
40. Pfizer Canada Inc. Bleomycin for Injection product monograph. Kirkland, Quebec; 8 August 2017.
41. BC Cancer. Systemic Therapy Policy and Procedure III-50: Administration of High Alert Medications by the Intrathecal Route via Lumbar Puncture or Ommaya Reservoir. Vancouver, British Columbia; 1 May 2019.
42. Amgen Canada Inc. BLINCYTO® product monograph. Mississauga, Ontario; 12 July 2016.
43. Actavis Pharma Company. ACT BORTEZOMIB® Bortezomib for injection product monograph. Mississauga, Ontario; 24 September 2015.
44. Law S, Charbonneau LF, Iazzeta J, et al. Stability of generic formulations of bortezomib 1.0 and 2.5 mg/mL in vials and syringes stored at 4°C and room temperature (23°C). CJHP Canadian Society of Hospital Pharmacists Professional Practice Conference 2018 Poster Abstracts.Feb 4 - 6, 2018.
45. BC Cancer. Pharmacy Policy Number II-20: Guiding Principles for Chemotherapy Preparation Chart. Vancouver, British Columbia: BC Cancer; 19 September 2007.
46. Apotex Inc. Bortezomib for injection product monograph. Toronto, Ontario; 15 February 2019.
47. SE Walker, S. Law and N. Ma. (Abstract) Stability of 1.0 and 2.5 mg/mL bortezomib solution in vials and syringes following reconstitution with 0.9% sodium chloride at 4ºC and room temperature (25ºC). (Apotex brand). Department of Pharmacy, Sunnybrook Health Sciences Centre and Leslie Dan Faculty of Pharmacy, University of Toronto; 2019.

48. Janssen Inc. VELCADE® product monograph. Toronto, Ontario; 20 June 2013.
49. Teva Canada Limited. Bortezomib for injection® product monograph. Toronto, Ontario; 22 January 2015.
50. GMD Distribution Inc. for Seattle Genetics Inc. ADCETRIS® product monograph. Oakville, Ontario; 1 February 2013.
51. Pharmascience Inc. Busulfan for injection product monograph. Montreal, Quebec; 14 June 2018.
52. SteriMax Inc. Busulfan for injection product monograph. Oakville, Ontario; 4 May 2017.
53. sanofi-aventis Canada Inc. JEVTANA® product monograph. Laval, Quebec; 13 September 2013.
54. Accord Healthcare Inc. Carboplatin injection® product monograph. Kirkland, Quebec; 15 May 2019.
55. Omega Laboratories Ltd. Carboplatin injection product monograph. Montreal, Quebec; 24 March 2011.
56. Nayla El Zir. Personal communication. Associate, Regulatory Affairs, Omega Laboratories Limited; 12 April 2017.
57. Pfizer Canada ULC. Carboplatin injection product monograph. Kirkland, Quebec; 31 December 2018.
58. Novopharm Limited. Carboplatin Package Insert. Toronto, Canada; Undated.
59. Manjinder S Kang. Personal communication. Regulatory Affairs Drug Information Pharmacist, Novopharm Canada. 14 March 2005.
60. Trissel LA. Handbook on Injectable Drugs. 13th ed. Bethesda, MD: American Society of Health-System Pharmacists, Inc.; 2005.
61. Repchinsky C editor. Paraplatin-AQ, Compendium of Pharmaceuticals and Specialties. 12th ed. Ottawa, Ontario: Canadian Pharmacists Association; 2004.
62. Amgen Canada Inc. KYPROLIS® product monograph. Mississauga, Ontario; 6 July 2017.
63. Luis Simao. Personal communication. Area Manager, ICU Medical Canada; 11 May 2018.
64. Diane Lord. Personal communication. Medical Information, Amgen Canada Inc.; 8 May 2018.
65. Bristol Laboratories of Canada. BiCNU Package Insert. Montreal, Canada; 2002.
66. sanofi-aventis Canada Inc. LIBTAYO® product monograph. Laval, Quebec; 10 April 2019.
67. Regeneron Pharmaceuticals Inc. Pharmacy Manual Protocol R2810-ONC-1676: An open-label, randomized, phase 3 clinical trial of REGN2810 versus therapy of investigator's choice chemotherapy in recurrent or metastatic platinum cervical cancer. Tarrytown, NY, USA; 26 July 2017 - version 1.0.
68. ImClone LLC (distributed by Eli Lilly Canada Inc). ERBITUX® product monograph. Toronto, Ontario; 10 January 2018.
69. Accord Healthcare Inc. Cisplatin injection product monograph. Kirkland, Quebec; 15 February 2019.
70. Pfizer Canada ULC. Cisplatin injection product monograph. Kirkland, Quebec; 7 December 2018.
71. Sandoz Canada Inc. Cisplatin Injection BP product monograph. Boucherville, Quebec; 13 April 2011.
72. BC Cancer Agency. Pharmacy Policy Number II-20: Guiding Principles for Chemotherapy Preparation Chart. Vancouver, British Columbia: BC Cancer Agency; 19 September 2007.
73. Trissel LA. Handbook on Injectable Drugs. 16th ed. Bethesda, Maryland: American Society of Health-System Pharmacists, Inc; 2011. p. 378.
74. Teva Canada Limited. Cisplatin injection® product monograph. Toronto, Ontario; 6 March 2013.
75. Pharmaceutical Partners of Canada, Inc. Cladribine For Injection product monograph. Richmond Hill, Ontario; 27 November 2008.
76. BC Cancer Agency Lymphoma Tumour Group. (LYCDA) BCCA Protocol Summary for Treatment of Hairy Cell Leukemia with Cladribine. Vancouver, British Columbia: BC Cancer Agency; 1 February 2007.
77. de Lemos ML, Hamata L. Stability issues of parenteral chemotherapy drugs. J Oncol Pharm Pract Mar 2007;13(1):27-31.
78. Baxter Corporation. Procytox Package Insert. Toronto, Ontario; 2004.
79. Baxter Corporation. Procytox Package Insert. Missisauga, Ontario; 1 October 2003.
80. Paul Agro. Personal communication. Medical Information, cyclophosphamide, Baxter. 12 July, 2006.
81. Pfizer Canada Inc. Cytarabine Solution for Injection product monograph. Kirkland, Quebec; 3 November 2015.
82. BC Cancer Lymphoma Tumour Group. (LYIT) BC Cancer Protocol Summary for Treatment of Lymphoma using Intrathecal Methotrexate and Cytarabine. Vancouver, British Columbia: BC Cancer; 1 June 2014.
83. BC Cancer Miscellaneous Origin Tumour Group. (MOIT) BC Cancer Protocol Summary for Solid Tumours using Intrathecal Methotrexate and/or Thiotepa and/or Cytarabine. Vancouver, British Columbia: BC Cancer; 1 October 2018.
84. Hospira Healthcare Corporation. Cytarabine Injection® product monograph. Saint-Laurent, Quebec; 25 November 2013.
85. Pharmascience Inc. Cytarabine Solution for Injection product monograph. Montreal, Quebec; 14 February 2017.
86. Abraxis Pharmaceutical Products. Dacarbazine product information package. Schaumburh, IL; December 2006.
87. Trissel L. Handbook on injectable drugs. 13th ed. Bethesda, Maryland: American Society of Health-System Pharmacists; 2005. p. 428-431.
88. Mayne Pharma (Canada) Inc. DACARBAZINE FOR INJECTION product monograph. Montreal, Quebec; 25 July 2003.

89. John Korontzis. Personal communication. Regulatory Affairs Associate, Dacarbazine, Mayne Pharma Canada; #FEB-14-2005 (february 8, 2005).
90. Robert Caunce. Personal communication. Quality System Manager, Hospira Australia; 12 March 2008.
91. Pfizer Canada Inc. Dacarbazine for Injection product monograph. Kirkland, Quebec; 31 May 2018.
92. Recordati Rare Diseases Inc. COSMEGEN® product monograph. Lebanon, New Jersey USA; 24 July 2014.
93. Andy Harbrow. Personal communication. Global Medical Services Manager, Primevigilance (for Recordati Rare Diseases Inc.); 15 July 2014.
94. Janssen Inc. DARZALEX® product monograph. Toronto, Ontario; 29 June 2016.
95. Erfa Canada Inc. Daunorubicin injection product monograph. Westmount, Quebec; 6 December 2002.
96. Erfa Canada Inc. Material Safety Data Sheet. Montreal, Quebec; 3 October 2007.
97. Henri Knafo MD. Personal communication. Medical Director, Erfa Canada Inc; 14 July 2008.
98. Henri Knafo MD. Personal communication. Medical director, Erfa Canada Inc; 09 July 2008.
99. Novopharm Limited. Daunorubicin Package Insert. Toronto, Canada; Undated.
100. Ferring Pharmaceuticals. FIRMAGON® product monograph. North York, Ontario; 20 March 2013.
101. Ferring Pharmaceuticals. FIRMAGON® product monograph. North York, Ontario; 06 November 2009.
102. Amgen Canada Inc. XGEVA® product monograph. Mississauga, Ontario; 14 October 2011.
103. Pfizer Canada Inc. ZINECARD® product monograph. Kirkland, Quebec; 12 August 2010.
104. Pfizer Canada Inc. ZINECARD® product monograph. Kirkland, Quebec; 30 March 2015.
105. Unither Biotec Inc. for United Therapeutics Corp. UNITUXIN® product monograph. Magog, Quebec; 28 November 2018.
106. Pfizer Canada Inc. Docetaxel injection product monograph. Kirkland, Quebec; 1 June 2018.
107. Hospira Canada Clinical Support Team. Personal communication. Hospira Canada Healthcare Corporation; 21 March 2011.
108. Josee Lloyd, Senior Clinical Specialist. Subject : Docetaxel Injection 160mg/16mL and 80 mg/8mL multidosing and venting needles. Hospira Clinical Support Team, Hospira Healthcare Corporation; 13 July 2011.
109. Sandoz Canada Inc. Docetaxel injection product monograph. Boucherville, Quebec; 24 January 2018.
110. Bazundama Bazuta Feza Sandrine. Personal communication - regarding in-house vial stability for docetaxel injection. Medical Information Intern, Sandoz Canada Inc.; 14 August 2018.
111. Bazundama Bazuta Feza Sandrine. Personal communication - regarding in-house product stability of diluted docetaxel injection. Medical Information Intern, Sandoz Canada Inc.; 14 August 2018.
112. sanofi-aventis Canada Inc. TAXOTERE® product monograph. Laval, Quebec; 15 April 2011.
113. Walker SE, Charbonneau F, Law S. Stability of docetaxel solution after dilution in ethanol and storage in vials and after dilution in normal saline and storage in bags. Can J Hosp Pharm 2007;60(4):231-237.
114. Accord Healthcare Inc. Doxorubicin injection® product monograph. Montreal, Quebec; 9 April 2014.
115. Mayne Pharma (Canada) Inc. Doxorubicin Package Insert. Montreal, QC; Undated.
116. Mayne Pharma (Canada) Inc. Doxorubicin Product Monograph. Montreal, Quebec; 2002.
117. Novopharm Limited. Doxorubicin Product Monograph. Scarborough, Ontario; 8 November 1996.
118. Pfizer Canada Inc. ADRIAMYCIN® injection product monograph. Kirkland, Quebec; 28 August 2007.
119. Janssen Inc. CAELYX® product monograph. Toronto, Ontario; 10 October 2013.
120. AstraZeneca Canada Inc. IMFINZI® product monograph. Mississauga, Ontario; 4 May 2018.
121. Novopharm. Epirubicin for Injection product monograph. Toronto, Ontario; 16 March 2009.
122. Pharmaceutical Partners of Canada, Inc. Epirubicin Hydrochloride Injection product monograph. Richmond Hill, Ontario; 6 July 2010.
123. Pharmacia Canada Inc. Pharmorubicin PFS Package Insert. Mississauga, Ontario; May 2003.
124. Trissel LA. Handbook on Injectable Drugs. 12th ed. Bethesda, MD: American Society of Health-System Pharmacists, Inc.; 2003.
125. BC Cancer Agency Lymphoma Tumour Group. (ULYEPOCHR) Interim BCCA Protocol Summary for Treatment of Lymphoma with Dose-Adjusted Etoposide, DOXOrubicin, VinCRIStine, Cyclophosphamide, PredniSONE, and riTUXimab (LYEPOCHR) with Intrathecal Methotrexate. Vancouver, British Columbia: BC Cancer Agency; 1 July 2015.
126. Barry Goldspiel. Personal communication. NIH Clinical Centre; 14 April 2015.
127. Wolfe JL, Thoma LA, Du C, et al. Compatibility and stability of vincristine sulfate, doxorubicin hydrochloride, and etoposide in 0.9% sodium chloride injection. Am J Health-Syst Pharm 1999;56:985-989.
128. Dunleavy K, Pittaluga S, Shovlin M, et al. Low-intensity therapy in adults with Burkitt's lymphoma. N Engl J Med 2013;369:1915-1925.

129. Eisai Limited. HALAVEN® product monograph. Mississauga, Ontario; 17 January 2013.
130. Sandoz Canada Inc. Etoposide injection® product monograph. Kirkland, Quebec; 27 February 2012.
131. BC Cancer Agency. Provincial Pharmacy Directive III-50-04: Management of Particulate During Sterile Preparation. Vancouver, British Columbia: BC Cancer Agency; 9 July 2014.
132. Novopharm Limited. Etoposide Product Monograph. Toronto, Ontario; 2000.
133. Lepage R, Walker S, Godin J. Stability and compatibility of etoposide in normal saline. Canadian Journal of Hospital Pharmacy 2000;53(5):338-345.
134. The United States Pharmacopeial Convention, Inc. General Chapter 797: Pharmaceutical compounding - sterile preparations. USP 27-NF 22. Rockville, Maryland: The United States Pharmacopeial Convention, Inc.; 2003.
135. Angie Chan. Personal communication. Drug Information Pharmacist, Novopharm. 29 September 2006.
136. Bristol-Myers Squibb Company. ETOPOPHOS® product monograph. Princeton, New Jersey, USA; March 2011.
137. Bristol-Myers Squibb Company. ETOPOPHOS® product monograph. Princeton, New Jersey, USA; September 2013.
138. Amgen Canada Inc. NEUPOGEN® product monograph. MIssissauga, Ontario; 21 March 2014.
139. Amgen Medical Information. Personal communication. Amgen Canada Inc.; 8 July 2014.
140. Trissel LA. Handbook on Injectable Drugs. 13th ed. Bethesda, Maryland: American Society of Health-System Pharmacists, Inc; 2005. p. 648-655.
141. Berlex Canada Inc. Fludara Package Insert. Lachine, Quebec; December 1998.
142. Trissel's™2 Clinical Pharmaceutics Database (Parenteral Compatibility) [database on the internet]. Fludarabine. Thomson MICROMEDEX®, Available at: http://www.micromedex.com/. Accessed 14 September, 2007.
143. Novopharm Limited. Fludarabine product information package. Toronto, Ontario; 21 June 2007.
144. Accord Healthcare Inc. Fluorouracil injection® product monograph. Kirkland, Quebec; 30 September 2013.
145. Charles Vachon. Personal communication. Quality and Regulatory Affairs, Accord Healthcare Inc.; 29 September 2016.
146. John Korontzis. Personal communication. Regulatory Affairs Associate, Fluorouracil, Mayne Pharma Canada; February 16, 2005.
147. Pfizer Canada Inc. Fluorouracil injection product monograph. Kirkland, Quebec; 17 April 2018.
148. Trissel LA. Fluorouracil. Handbook on Injectable Drugs: 13th ed. Bethesda, Maryland: American Society of Health-System Pharmacists, Inc; 2005. p. 672-681.
149. Stiles ML, Allen Jr LV, Tu YH. Stability of fluorouracil administered through four portable infusion pumps. American Journal of Hospital Pharmacy 1989;46(10):2036-2040.
150. BC Cancer Agency Experimental Therapeutics. Physicochemical stability analysis of fluorouracil products in final chemotherapeutic preparations.Vancouver, BC. 19 August 2011;Study number 50009:1-43.
151. Sandoz Canada Inc. Fluorouracil Injection product monograph. Boucherville, Quebec; 3 April 2012.
152. Alexandre Dussault. Personal communication. Drug Information & Pharmacovigilance Coordinator, Sandoz Canada Inc.; 19 November 2015.
153. Accord Healthcare Inc. Gemcitabine injection® product monograph. Kirkland, Quebec; 29 September 2014.
154. Astron Research LTD. UK. Gemcitabine for Injection (STBRG/ACGEM/01) Stability Study Report (Dilution Study) 2001.
155. Purvi Agrawal BPharm (Regulatory Affairs Manager). Personal communication. Accord Healthcare Inc.; 07 September 2012.
156. Pfizer Canada Inc. Gemcitabine Injection (ready to use solution) product monograph. Kirkland, Quebec; 25 October 2018.
157. Pfizer Canada Inc. Gemcitabine Injection (ready to use solution) product monograph. Kirkland, Quebec; 24 August 2017.
158. Sandoz Canada Inc. Gemcitabine hydrochloride solution for injection product monograph. Boucherville, Quebec; 14 August 2014.
159. Pfizer Canada Inc. IDAMYCIN® product monograph. Kirkland, Quebec; 19 February 2009.
160. Pharmaceutical Partners of Canada, Inc. IDARUBICIN HYDROCHLORIDE INJECTION® product monograph. Richmond Hill, Ontario; 12 November 2009.
161. Baxter Corporation. IFEX® product monograph. Mississauga, Ontario; 5 April 2012.
162. Pharmaceutical Partners of Canada, Inc. Ifosfamide for Injection product monograph. Richmond Hill, Ontario; 17 January 2008.
163. sanofi-aventis Canada. Iniparib (BSI-201;SAR240550) Special Access Program Guidance for the Physician. Laval, Quebec; 15December2010.
164. Pfizer Canada Inc. BESPONSA® product monograph. Kirkland, Quebec; 15 March 2018.
165. Pfizer Canada Inc. Personal communication. Pfizer Canada Medical Information; 26 November 2018.
166. Merck Canada Inc. INTRON A® product monograph. Kirkland, Quebec; 13 March 2015.
167. Edward Kavalec BSc(Pharm), Medical Services Specialist. Personal communication. Merck Canada Inc. Medical Information; 1 April 2015.
168. Bristol Myers Squibb Canada. YERVOY® product monograph. Montreal, Quebec; 1 February 2012.
169. Accord Healthcare Inc. Irinotecan injection® product monograph. Kirkland, Quebec; 6 May 2014.
170. Pfizer Canada Inc. Irinotecan hydrochloride trihydrate for injection product monograph. Kirkland, Quebec; 6 March 2019.

171. Pfizer Canada Inc. Irinotecan hydrochloride injection product monograph. Kirkland, Quebec; 8 March 2019.
172. Servier Canada Inc. ONIVYDE® product monograph. Laval, Quebec; 4 January 2019.
173. Bristol-Myers Squibb. IXEMPRA® product monograph. Princeton, New Jersey; 01 October 2007.
174. Kastango ES. The ASHP discussion guide for compounding sterile preparations. Bethesda (MD): American Society of Health-System Pharmacists, Inc.; 2004. p. 5.